

# Ice, Ice, Baby? A Sociological Exploration of Social Egg Freezing

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## Abstract

Social egg freezing is a fertility preservation strategy which enables women to preserve a number of healthy unfertilised eggs for potential future use when faced with the threat of age-related fertility decline. The overall aim of this thesis was to explore how women understand, construct and experience social egg freezing in the context of debates surrounding reproductive ‘choice’ and ‘delayed motherhood’.

The study sought to provide insights into how women perceive the risks and benefits of social egg freezing, how it relates to their discourses of parenthood and their future reproductive intentions as well as how the ‘medical’ encounter in egg freezing is experienced. The thesis draws on Layder’s theory of social domains, selectively focusing on the domains of contextual resources, situated activity, and psychobiography to explore the macro and micro level aspects of social egg freezing (Layder 2006).

Consistent with this theoretical framework, the study utilised a multi-method approach: a content and critical discourse analysis of UK newspaper articles on egg freezing, a demographic questionnaire, and semi-structured interviews with 31 users of egg freezing technology.

‘Career reasons’ were presented as the dominant motivation for social egg freezing in newspaper reports. Highly gendered messages interwoven with discourses of blame and failure were identified throughout the newspaper sample alongside moralising discourses calling for women to act responsibly towards their fertility. Emotive language and specific lexical choices were central in constructing discourses about motherhood and reproductive timing which largely excluded a consideration of the structural, relational and ideological factors which influence reproductive timing and reproductive ‘choice’.

The demographic profile of interview participants was similar to that found in existing quantitative studies of social egg freezing. Participants were predominantly single, highly educated women in professional careers, with an average age of 37 at the time of undergoing egg freezing.

Egg freezing was constructed by participants in relation to a particular biological project and sense of self. Motherhood was something they wanted to experience at the 'right time' with the 'right partner'. The right time for motherhood was related to the feeling of 'being ready', which was often linked to the acquisition of certain preconditions for parenthood. The 'right' partner was constructed as someone who reflected certain cultural ideals often associated with 'new fatherhood'. The absence of such a partner indicated that it was the wrong time to pursue motherhood and thus led women to pursue social egg freezing. Many participants reported that a particular issue or event had acted as a critical factor leading them to undergo egg freezing. These included the breakdown of a relationship or the diagnosis of a health or fertility related problem, thus blurring the conceptual distinction between medical and social egg freezing.

Through the use of Layder's theory of social domains and concepts of neoliberalism and biomedicalisation, the thesis argues that women's engagement with this technology is influenced by both macro and micro sociological factors including ideologies of parenthood, an individual's social location, relationships with intimate partners and men's fathering intentions. When faced with the 'risk knowledge' of their declining ovarian reserve, the female users of this technology can be seen as enacting 'reproductive responsibility' commensurate with neoliberal values of responsibility, self-actualisation and self-determined action in pursuit of a particular construction of motherhood. This theorisation provides a challenge to current understandings around delayed motherhood and suggests that women's use of social egg freezing should not be

seen simply as the outcome of women's 'choice', but as a process involving a complex interrelation of discourses which contextualises decision making in the reproductive realm.

This research has implications for practitioners, regulators, users and potential users of this technology, as well as for researchers concerned with questions of reproductive choice, delayed motherhood and reproductive timing.

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## 1 Chapter One: Introduction

### 1.1 Introduction

In her professorial inaugural lecture Sarah Franklin (2008) suggested that we have experienced a reproductive ‘revolution’ and argued that we are now living in a new era of reproductive intervention and management. This ‘revolution’ has seen a significant cultural shift in the role fertility technologies play in our everyday lives, and has occurred alongside other significant changes in the profile of the modern family. One such shift of central relevance to this thesis is the advancing average age of women at the birth of their first child. Alongside this has been the development of a new reproductive technology, egg freezing, which according to some, has the potential to enable women to time motherhood according to their own choosing. This study is an exploration of this novel form of assisted reproductive technology, it examines the way this technology is constructed and the way it is experienced by users in a contemporary social context.

In this introductory chapter the technology of egg freezing will be introduced and its application for so-called social reasons will be discussed. This chapter will examine the initial development of egg freezing technology, will provide a discussion of the cost of the procedure, the success rates currently being observed and debates concerning the potential benefits as well as problems associated with this form of ‘fertility preservation’. It will also include a brief discussion of the position on this technology and its use for social reasons from British Fertility Society (BFS) and American Society for Reproductive Medicine (ASRM). This chapter also provides some context to the use of egg freezing for social reasons including a discussion of the literature exploring: the rising age of women at the birth of their first child; women’s changing roles in society; the link between age and fertility; as well as women’s knowledge and awareness of age-related fertility decline. Finally, the chapter presents the justifications for carrying out this research, the aims of the study, and a brief summary of the theoretical underpinnings of both the thesis and data collection methods. The chapter then closes by providing an overview and structure of the thesis.

## 1.2 Egg freezing: A new form of fertility preservation

When it was first developed in the late 1980s, egg freezing was a strategy which enabled women to preserve a number of healthy unfertilised eggs when faced with the threat of infertility due to a medical condition or medical treatment. Initial efforts at egg freezing were marked by technical difficulties including damage to the egg caused by the formation of ice crystals (Vincent, Pickering and Johnson, 1990; Aman and Parks, 1994; Baka et al., 1995; Rienzi et al., 2004; Stoop et al., 2015) and difficulties achieving fertilisation due to zona pellucida hardening (Carroll, Depypere and Matthews, 1990; Matson et al., 1997; Paynter et al., 1999; Fabbri et al., 2001). However, the development of intracytoplasmic sperm injection (ICSI), which was able to circumvent zona pellucida hardening, and the use of the vitrification method led to a resurgence of interest in fertility preservation via egg freezing in the early to mid-2000s (Wise, 2000; Practice Committee of the American Society for Reproductive Medicine and Practice Committee of the Society for Assisted Reproductive Technology, 2008; Check, 2009).

As the clinical techniques of egg freezing have developed and the technology has become more viable in some clinics, the application of this technology has become increasingly diversified to include use by: patients receiving gonadotoxic therapies for cancer and other medical illnesses; individuals with genetic conditions which may result in premature menopause; individuals who object to the cryopreservation of embryos; individuals who are undergoing gender-reassignment surgery; the storage of eggs for use in donor cycles of IVF as well as in research; and the storage of eggs for women who wish to defer childbearing (Elizur et al., 2009; Rodriguez-Wallberg and Oktay, 2012; Kawwass et al., 2013; Armuand et al., 2015). The use of egg freezing in order to ‘defer’ childbearing has been referred to as egg freezing for ‘lifestyle’ (Savulescu and Goold, 2008), ‘elective’ (Practice Committee of the American Society for Reproductive Medicine, 2009; Devine et al., 2012), ‘non-medical’ and ‘social’ reasons (Mertes and Pennings, 2011) and the term ‘social egg freezing’ is often used to describe this process.

Since 2001 fewer than 60 babies have been born in the UK using previously frozen eggs<sup>1</sup> (HFEA, 2016). Egg freezing for social reasons is currently offered by 65 clinics in the UK and since 2005 the numbers of women undergoing the procedure has risen

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<sup>1</sup> The first baby born, Emily Perry is now around 14 years old (born 2002). Due to ethical objections of the freezing of embryos her mother froze her eggs which she later used to conceive with her partner.

substantially, seeing a 25%-30% rise in the number of users' year-on-year (HFEA, 2016). However, whilst the uptake of this technology is growing, the number of users remains low<sup>2</sup> (HFEA, 2016). The cost of one cycle of egg freezing in the UK, including the cost of the stimulation drug package, starts at around £5,000<sup>3</sup>. However, it is not uncommon for women to undergo repeated rounds of stimulation and retrieval in order to collect as many eggs as possible. For the eggs to be stored by the fertility clinic the female users are also required to pay yearly storage fees to the clinic costing upwards of £200 a year. Should a woman wish to use her eggs to conceive, they are thawed and then, using ICSI, fertilised with her partner's or a donor's sperm. This procedure, including the use of drugs to prepare the woman's body to receive the transferred embryo, can cost in excess of £3,000, and further additional costs would also be incurred should a woman use donor sperm to conceive<sup>4</sup>.

In the UK egg freezing for social reasons is not available on the NHS, so users of this technology must pay privately for the procedure. However, some women are able to undergo the procedure free of charge if they enter into an 'egg sharing' agreement. This agreement, called 'freeze and share', sees the woman freeze her eggs for free if she shares half of those eggs collected with another woman for use in fertility treatment. Thus she 'donates' her eggs<sup>5</sup> to a woman who otherwise would have difficulties conceiving. To undergo this process women have to be 35 years of age or younger, as this is the maximum age at which women can donate eggs in the UK, and are required to have a certain hormone level (FSH) indicating that they are likely to be able to produce a sufficient number of eggs for sharing. However, as the woman freezing her eggs is required to donate half her eggs to another woman, she is often counselled to undergo the procedure a number of times in order to collect a sufficient number for freezing (Donnez and Dolmans, 2013). Thus, unlike her fee paying counterparts, she has to undergo the process of ovarian stimulation and retrieval with the associated risks on two or more occasions. Appendix one provides a full description of the process a

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<sup>2</sup> 890 cycles of egg freezing for medical and non-medical reasons were performed in 2014, out of a sector total of well over 60,000 treatment cycles.

<sup>3</sup> Cost accurate as of March 2016

<sup>4</sup> Using donor sperm with previously frozen eggs costs around £3,500

<sup>5</sup> The female user of egg freezing who donates her eggs through a freeze and share scheme is subject to the same regulations and requirements as other donors, specifically that her donation is non anonymous

woman typically goes through when freezing her eggs including some of the risks involved.

In the USA where the cost of egg freezing is more variable, depending on the provider and level of their health insurance cover, some women are able to access the procedure at a subsidised cost although this varies between insurance plans. Furthermore for a small minority of women the technology is available through the healthcare scheme provided by their employer (Blackburn-Starza, 2014). Despite the high financial cost of the procedure, in both the UK and USA, the delivery of a healthy baby is far from a guaranteed outcome.

Whilst specialist clinics in the USA and Italy have been able to produce results using frozen eggs similar to those obtained with fresh eggs, in fertility treatments using ICSI (Rienzi et al., 2004; Parmegiani et al., 2011) the success rates of egg freezing are still difficult to quantify (von Wolff, Germeyer and Nawroth, 2015). This is because the success of egg freezing can be measured in several different ways and is dependent on factors such as the number of eggs collected for freezing, the age of the woman at the time of egg collection, as well as the expertise of the clinic where the cryopreservation takes place (von Wolff, Germeyer and Nawroth, 2015). This is significant as, at this time, there are currently no standardised protocols for egg freezing (Wang et al., 2013; De Munck et al., 2016; Argyle, Harper and Davies, 2016). As such, it is unclear how transferrable the success rates seen in specialist centres are to all fertility clinics (von Wolff, Germeyer and Nawroth, 2015).

Between 1991 and 2012 approximately 20 babies were born after 160 IVF cycles using frozen eggs, suggesting a 12.5% success rate (HFEA, 2016). Similar to IVF treatment more generally, when using ICSI the age of the woman at the time of undergoing egg freezing has been shown to have a significant effect on the likelihood of the procedure resulting in a live birth (Practice Committee of the American Society for Reproductive Medicine and Practice Committee of the Society for Assisted Reproductive Technology, 2013). As such, the younger a woman is at the time of freezing her eggs the more likely it is that she will be successful when using these eggs to conceive. Estimates from Wolff et al (2015) have suggested that the anticipated estimated birth rate per stimulation cycle for women aged 35 years or less is 40%, for women aged 35-39 it is 30%, and for women aged over 40 is 15%.



Whilst egg freezing for social reasons is available in the UK for those able to pay for the procedure or through a freeze and share programme, it is currently deemed 'experimental' by the British Fertility Society (BFS) and the Association of Clinical Embryologists (ACE) who note that egg freezing 'should not be portrayed as a means to counteract age-related fertility decline' (Cutting et al., 2009). Until recently the dearth of adequate data examining the incidence of abnormalities in children born from previously cryopreserved oocytes coupled with the low pregnancy rates being observed meant that egg freezing had also been considered an experimental procedure in the United States (Practice Committee of the American Society for Reproductive Medicine and Practice Committee of the Society for Assisted Reproductive Technology, 2008). However, in 2012 the American Society for Reproductive Medicine (ASRM) released the findings from a systematic literature review (Cobo et al., 2008; Cobo et al., 2010; Parmegiani et al., 2011; Rienzi et al., 2010) and concluded that:

*'There is good evidence that fertilisation and pregnancy rates are similar to IVF/ICSI with fresh oocytes when vitrified/warmed oocytes are used as part of IVF/ICSI for young women. Although data are limited, no increase in chromosomal abnormalities, birth defects, and developmental deficits has been reported in the offspring born from cryopreserved oocytes when compared to pregnancies from conventional IVF/ICSI and the general population. Evidence indicates that oocyte vitrification and warming should no longer be considered experimental.'* (Practice Committee of the American Society for Reproductive Medicine and Practice Committee of the Society for Assisted Reproductive Technology, 2013:1)

However, the society noted that whilst positive results had been seen in a select population, most notably in women under 30, the most encouraging results were limited to a small number of centres in the US and were therefore unlikely to be generalisable to most patients in the majority of clinics. This resulted in the society concluding, similar to the BFS and ACE, that although the experimental label of egg freezing should be lifted, 'there are not yet sufficient data to recommend oocyte cryopreservation for the sole purpose of circumventing reproductive ageing in healthy women' (Practice Committee of the American Society for Reproductive Medicine and Practice Committee of the Society for Assisted Reproductive Technology, 2013:5).

Despite this warning, over the last three to five years the numbers of clinics offering the procedure and numbers of women making use of this technology has grown (HFEA, 2016). Whilst the best results with regards to freeze/thaw and clinical pregnancy rates have been shown with eggs from reproductively young women, it has been suggested

that in order to optimise the use of this technology including its cost effectiveness women should seek to freeze their eggs before turning 35 years of age (Mesen et al., 2015) and seek to freeze a minimum of 15-20 eggs so to ensure the best results (Donnez and Dolmans, 2013; Lockwood and Johnson, 2015). Mesen et al (2015) also notes that egg freezing has the largest benefit over no action and is most cost-effective at age 37 years with similar suggestions from van Loendersloot et al (2011) and Devine et al (2012; 2015).

The potential benefits of egg freezing for women concerned about age-related infertility have frequently been espoused by companies and clinics who offer the procedure (eggbanxx.com, extendfertility.com, londoneggbank.com). Most often these benefits are couched in terms of allowing women a greater window of time to become ready for motherhood. The notion of being 'ready' for motherhood, which is explored in greater detail in the following chapter, is often linked to finding the right partner, being in stable and secure employment and accommodation and feeling psychologically prepared for parenthood. It has been suggested that egg freezing technology has the potential to allow women greater participation in the labour market prior to engaging in childbearing; to enable women to have more time to find a suitable partner with whom to have children; as well as more time to become emotionally and psychologically ready for childbearing (Harwood, 2009; Goold and Savulescu, 2009; Rybak and Lieman, 2009; Petropanagos, 2015). Should this technology be successful in allowing women to conceive at an older age using these previously frozen younger eggs, it has been suggested that this technology will be able to potentially widen the otherwise narrow window of time women have to safely attempt childbearing thereby levelling 'the playing field' between men and women in the current double standard of reproductive ageing (Rybak, Lieman, 2009:1509). Furthermore, if women make use of this technology prior to the decline in their egg quality (before the age of 35) then egg freezing also has the potential to minimise the risk of genetic abnormalities occurring in children born to older mothers (Homburg, van der Veen and Silber, 2009).

However, the use of egg freezing to defer childbearing has been criticised on the grounds of safety to the woman and her unborn child and questions have been raised about the emotional wellbeing of children who, through the use of this technology,

could be born to post-menopausal mothers<sup>6</sup>. Other critical concerns have been voiced by Lord Robert Winston, a pioneer of IVF technology, who has previously referred to egg freezing as ‘an expensive confidence trick’ (Jones, 2009) and a technology ‘really not likely to work’ (Connor, 2014).

Thus, whilst some of the potential benefits of egg freezing have been identified, concerns persist amongst sociologists, ethicists and feminists about whether this technology is likely to undermine rather than enhance or expand women’s reproductive freedom (Harwood, 2009; Petropanagos, 2010; Cattapan et al., 2014; Mertes, 2015). These anxieties about the social implications of egg freezing stem from concerns about how this technology further obscures the influence of social structures that initiate or contribute to the decision to delay childbearing (Petropanagos, 2010). Furthermore, as Harwood suggests, the technology of egg freezing can be seen as just a ‘stop gap measure’ when seeking to balance the opportunities available to men and women in the workplace and the technology ‘may leave the hard work of moving society towards greater sexual equality untouched’ (2009:46) thereby reproducing unequal relations between men and women. These concerns are particularly pertinent in the light of recent announcements by Facebook, Apple and other large corporations to fund the procedure for their female staff (Blackburn-Starza, 2014). Several authors including (Baylis, 2015) and (Mertes, 2015) have been highly critical of such a move, noting how it is important for the technology to be offered alongside and not in the place of family friendly policies in the workplace.

Social egg freezing has emerged from technological developments and improvements in assisted reproductive technologies (ARTs) such as those outlined above, but the demand for this technology has also been shaped by significant social changes in women’s lives which have been observed over the last 50 years. Thus in order to understand the emergence of this new form of fertility preservation it is important to explore the wider social context which has given rise to its use.

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<sup>6</sup> The concern generally is positioned as being with older mothers and not older fathers further reflecting the double standard in social attitudes to older parenthood wherein older motherhood is denigrated to a greater extent than older fatherhood.

### 1.3 Wider context

Social egg freezing has emerged as a new form of fertility preservation following a number of significant social shifts in the family as well as in the timing of parenthood, which has seen rising numbers of women having fewer children and pursue motherhood later on in life. Through an examination of relevant literature, the following discussion will explore some of the factors behind the rising age of women at the birth of their first child, discuss the relationship between a woman's age and her fertility, and examine men and women's awareness of age-related fertility decline.

The age distribution of women giving birth in England and Wales, as well as many other Western countries, has changed significantly in recent decades (Ní Bhrolcháin and Toulemon, 2005; Kreyenfeld, 2010). The average age of a woman at the birth of her first child in the UK during the 1960s was 24 years (ONS, 2011). This rose to 29.4 years in 2009 (ONS, 2011). Despite the increasing number of women remaining childfree, the fertility rate for women aged 40 and over has nearly trebled since 1991 (a rise of 134%) while for women aged 35-39 fertility has increased by 84% over the same period (ONS, 2014). Furthermore, when examining the number of live births across all age groups, the number of women having children at a younger age (under 20, 20-24 and 25-29) has declined since the mid-1980s and in the same period the number of women having children at an older age (30-34, 35-39 and 40 and over) has increased. This shift to older motherhood has been linked to factors such as women's greater participation in higher education and in the labour force (Penfold and Foxton, 2015; Daly, 2011); a change in gender roles brought about by the increased reliability of methods of contraception (Tough et al., 2002); the normalisation of multiple partnerships prior to marriage and the more frequent breakdown of marriages and relationships (Beaujouan and Ní Bhrolcháin, 2011; Mills et al., 2011); economic uncertainty and market instability (Adsera, 2011; Del Bono, Weber and Winter-Ebmer, 2011); the growing gap between capital costs and incomes; and the requirements for a dual earning household to build large deposits to enable home ownership (Waldby, 2015a; Daly and Bewley, 2013). The shift towards later motherhood has been the cause of much political, social and clinical concern (Bewley et al, 2005; Templeton, 2006) given that women's reproductive capacities do not last the entirety of women's lifetimes (Hansen et al., 2008). Instead it is now acknowledged that a woman's age is the single

most important determinant of her fertility (Dunson, Colombo and Baird, 2002; Balasch, 2010).

### 1.3.1 Age and Fertility

Women are born with all of the eggs<sup>7</sup> they will ever have and as a woman ages the number and quality of her eggs declines (Utting and Bewley, 2011) as does her ability to spontaneously conceive and carry a healthy pregnancy to full term. A woman's fertility decreases gradually but significantly, beginning at approximately 32 years of age and decreasing more rapidly after 37 years. Research has shown that not only does the chance of getting pregnant decline with age, but the likelihood of the pregnancy ending in a miscarriage also rises (Nybo Andersen et al., 2000; Heffner, 2004; Balasch and Gratacos, 2012) (figure one) and by the time a woman is 40 the risk of her experiencing a miscarriage overtakes the chance of a live birth.

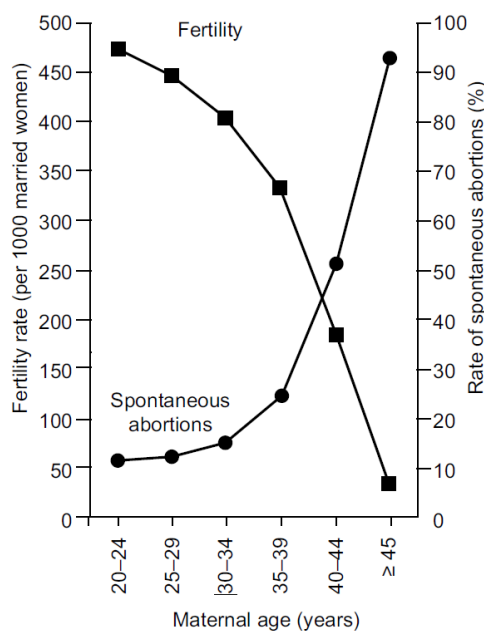


Figure 1: Fertility and miscarriage with advancing maternal age (Reproduced with permission from Heffner (2004) Copyright Massachusetts Medical Society).

<sup>7</sup> The term egg(s) rather than oocyte(s), which is the scientific term for a woman's eggs, is used throughout this thesis in recognition of the fact that this PhD is based in the social and not natural sciences.

Women who are reproductively older are also at an increased risk of many other complications throughout pregnancy and birth (table one) including: gestational diabetes (Hemminki, 1996; Jolly et al., 2000; Joseph et al., 2005), placenta praevia (Williams and Mittendorf, 1993), placenta abruption (Utting and Bewley, 2011), emergency caesarean section (Rosenthal and Paterson- Brown, 1998; Tough et al., 2002), chronic hypertension (Gosden and Rutherford, 1995), pre-eclampsia (Ziadeh and Yahaya, 2001) and post-partum haemorrhage (Jolly et al, 2000). Additional risks to children born from older mothers include an elevated risk of birth defects or genetic/chromosomal abnormalities (table two) including trisomy 21 which results in Down's syndrome. By comparison, whilst some research (Bray, Gunnell and Davey Smith, 2006) has shown a link between advanced paternal age and negative health outcomes seen in children, these risks are less pronounced and occur at a much older age (Hook, 1981; Toriello, Meck and Professional Practice and Guidelines Committee, 2008; Balasch, 2010).

| Maternal age at delivery | Risk of Down's syndrome | Risk of any chromosomal abnormality |
|--------------------------|-------------------------|-------------------------------------|
| 20                       | 1/1667                  | 1/526                               |
| 25                       | 1/1200                  | 1/476                               |
| 30                       | 1/952                   | 1/385                               |
| 35                       | 1/378                   | 1/192                               |
| 40                       | 1/106                   | 1/66                                |
| 45                       | 1/30                    | 1/21                                |

Table 1: Risk of Down's syndrome and chromosomal abnormalities at live birth according to maternal age (from Heffner, 2004)

| Maternal age | Pre-eclampsia | Gestational diabetes | Emergency caesarean | Postpartum haemorrhage |
|--------------|---------------|----------------------|---------------------|------------------------|
| 18-34        | 0.78          | 1                    | 8.65                | 11.24                  |
| 34-40        | 0.76          | 2.85                 | 11.05               | 14.25                  |
| >40          | 0.79          | 4.56                 | 14.24               | 17.99                  |
|              | %             | %                    | %                   | %                      |

Table 2: Risks to mothers in pregnancy and childbirth (Jolly et al, 2000)

Whilst the causes of infertility in women and men are multiple and largely known (see NICE, 2013 for further discussion), in up to 25% of cases, no reason for infertility can be found and the term 'unexplained infertility' is used (NICE, 2013). Although younger women can experience 'unexplained infertility', research has linked this to the age of

women at the time of trying to conceive (Maheshwari et al., 2008). It has been estimated that more than five million babies have been born worldwide as a result of the advent of assisted reproductive technologies (ARTs) (Bauquis, 2012). However the success rates of IVF particularly for older women remain low (see table three), with the live birth rate per treatment cycle using a 38 year old's eggs standing at around 20%. This has led several authors to note how, despite perceptions to the contrary (Daniluk, Koert and Cheung, 2012; Mac Dougall, Beyene and Nachtigall, 2012), ARTs cannot compensate for age-related fertility decline (Leridon, 2004; Alviggi et al., 2009; Balasch, 2010).

| Age      | 2011  | 2012  |
|----------|-------|-------|
| 18-34    | 32.2% | 32.8% |
| 35-37    | 27.3% | 27.3% |
| 38-39    | 19.9% | 20.7% |
| 40-42    | 13.3% | 13.1% |
| 43+      | 4.3%  | 4.4%  |
| All ages | 25.4% | 25.8% |

Table 3: Live birth rate per treatment cycle started using patients' fresh eggs (2011 and 2012)  
Source: HFEA (2014)

### 1.3.2 Awareness of age-related fertility decline

Despite the significant consequences of age-related fertility decline (ARFD), scientific knowledge on this topic has been slow to develop and arguably even more slowly disseminated (Mac Dougall, Beyene and Nachtigall, 2012). This is significant given the growing number of individuals and couples who are pursuing parenthood later on in their reproductive lives (Peterson et al., 2012). Research suggests that whilst women may understand that fertility declines with age, they may not be aware of the extent of, or rate of, this decline or the time of its onset (Wyndham, Marin Figueira and Patrizio, 2012). Mac Dougall et al (2012) found that 30% of the women they surveyed expected their fertility to decline gradually until menopause at around 50 years of age, and as a result 31% of women reported that they expected that they would be able to get pregnant at 40 years of age with relative ease. In their surveys of female university students in Sweden, (Lampic et al., 2006; Tydén et al., 2006), Israel (Hashiloni-Dolev,

Kaplan and Shkedi-Rafid, 2011) and Canada (Bretherick et al., 2010) all studies reported that although most participants were aware that fertility declines with age they significantly overestimated a woman's capacity to become pregnant across all ages. Furthermore, when it came to identifying factors which may inhibit conception or lead to lower fertility, participants did not identify ovarian ageing as significant and instead were more likely to note the risk to women's reproductive capabilities posed by behaviours such as smoking (Tydén et al., 2006; Bretherick et al., 2010). These findings are consistent with similar earlier research (Lampic et al., 2006; Svanberg et al., 2006; Tough et al., 2006; Tough et al., 2007).

Studies have also shown that women and men overestimate the extent to which assisted reproductive technologies such as IVF can help them conceive at an older age (Benzies et al., 2006; Svanberg et al., 2006; Bretherick et al., 2010; Daniluk, Koert and Cheung, 2012; Mac Dougall, Beyene and Nachtigall, 2012; Wyndham, Marin Figueira and Patrizio, 2012) and are not sufficiently aware that the chances of having a baby with IVF also decrease with age (Maheshwari, Hamilton and Bhattacharya, 2008). These perceptions are often attributed to contradictory media messages about delayed childbearing as well as misleading stories about the efficacy and application of certain ARTs. Of particular note is the presentation of success stories of births to women over the age of 40 which lack a discussion about the technology, such as the use of donor eggs, required to achieve such pregnancies (Hewlett, 2004; Bretherick et al., 2010; Mac Dougall, Beyene and Nachtigall, 2012; Wyndham, Marin Figueira and Patrizio, 2012; Daniluk and Koert, 2013; Everywoman, 2013; Schytt and Bergström, 2014; Ter Keurst, Boivin and Gameiro, 2015). Due to the lack of sufficient awareness of the realities of ARFD, researchers, as well as women themselves, have advocated for improved education on fertility, delayed childbearing and the associated risks and costs (Hewlett, 2004; Mac Dougall, Beyene and Nachtigall, 2012; Wyndham, Marin Figueira and Patrizio, 2012; Daniluk and Koert, 2013; Everywoman, 2013; Schytt and Bergström, 2014; Ter Keurst, Boivin and Gameiro, 2015). However public campaigns of this kind, in the USA as well as the UK, have been met with hostility and received criticism for the way they have been seen to impose limits on women's reproductive choices and result in unwelcome pressure on women to conceive at the 'correct' time (Soules, 2003; Cosslett, 2013). Furthermore, although providing men and women with information about ARFD may enable them to make a more informed choice about their reproductive decisions, research suggests this does not mean that these individuals would necessarily



have made their decisions any differently. Mac Dougall, Beyene and Nachtigall, (2012) reported that 23% of their female participants suggested that if they had been more knowledgeable about ARFD they might have attempted conception at an earlier age; however 46% of the women stated that even if they had possessed better information they would still not felt able to pursue parenthood any earlier. Therefore it seems likely that more fertility education may not reduce the number of women and couples experiencing age-related infertility as despite being informed of the risks associated with delaying childbearing they may still not feel ready for parenthood due to competing demands from their career, education, health and even relationship (Lampic et al., 2006; Mac Dougall, Beyene and Nachtigall, 2012).

#### **1.4 Justification for the study and research aims**

Whilst there are no official statistics on the number of women undergoing egg freezing for social reasons in the UK or USA, recent statistics from WhatClinic.com suggest that there has been a significant increase in the number of women inquiring about the procedure in the UK (Whatclinic.com, 2015) and it is now offered by 65 UK clinics. When this study commenced in 2011, social egg freezing had already begun to attract media attention (Davies, 2010) and there was a growing social and academic debate surrounding the topic (Savulescu and Goold, 2008; Rybak and Liemann, 2009; Petropanagos, 2010; Mertes and Pennings, 2011). However, despite this commentary, there was very little empirical research on the topic of social egg freezing generally and just a few, mostly quantitative, studies had explored women's reasons for freezing their eggs. Very little was known about which women were engaging with this newly offered technology and what egg freezing meant to women who chose to do it.

Social egg freezing has continued to generate considerable debate among social commentators and academics and, following the announcements by Facebook and Apple to fund the procedure for their female staff in 2014, the technology has taken centre stage in the social zeitgeist and public imagination. Articles on the topic of egg freezing can often now be found in newspapers (Donnelly, 2011; Sample, 2006) and magazines such as Vogue (Hass, 2011), 2011) and Glamour (Naaman, 2013). The technology has been discussed on radio shows (BBC Womans Hour, 2014; Cohen, 2015), been the focus of 'pop-up shops' (Redfern, 2016) and high profile women such

as Kim Kardashian who have undergone the procedure have had their experiences recorded and televised.

Despite this media attention there is still very little published research which has explored the phenomena of social egg freezing in any depth. In the context of this lacuna in empirical research, the overall aim of this thesis was to explore how women understand, construct and experience social egg freezing in the context of debates surrounding reproductive ‘choice’ and ‘delayed motherhood’. Within this overarching aim, this study sought to provide insights into the demographic profile of the users of this technology, how women perceive the risks and benefits of social egg freezing, their future reproductive intentions as well as how they experience the ‘medical’ encounter with clinics and physicians performing social egg freezing. Drawing on Layder’s theory of social domains (2006), the thesis also aimed to explore a key aspect of the social context in which egg freezing has occurred by critically analysing the way in which UK print media frame and discuss the issue of egg freezing and the women who undertake it.

## 1.5 Theoretical underpinnings

Layder’s concept of multiple interrelating social domains has been drawn upon to establish the ontological, epistemological and conceptual basis of the thesis. This theory of domains suggests that in order to better understand social phenomena it is important to examine the social world as something which is multi-dimensional and which should not be reduced or conflated to either the result of agentic or structural elements. The approach taken therefore is to explore women’s accounts of social egg freezing, alongside a discussion of UK media accounts, to encompass several of Layder’s domains: the psychobiography, contextual resources and situated activity. This section provides a brief introduction to Layder’s theory of domains and its adoption in this study to explore women’s experience of social egg freezing. A more detailed discussion of this approach is provided in chapter four.

Research examining social aspects of assisted reproduction has been undertaken by researchers from many different perspectives including phenomenology (Imeson and McMurray, 1996; Malik and Coulson, 2013), interpretivism (Hudson, 2008) and symbolic interactionism (Loftus and Andriot, 2012) . Whilst many of these research studies have been able to provide valuable and detailed personal accounts of infertility

and unwanted childlessness they are, as Layder notes, 'bound by an ontology of doing and being, reasons and motives' (Layder, 1997), which prevents them from examining social phenomena which fall outside this inherently subjective and therefore narrowly circumscribed area.

Layder's theory and adaptive approach postulates that research and social theorising must move beyond dogmatic and narrow epistemological assumptions, look beyond interaction, meanings and accounts of situations and be more sensitive to broader, macro as well as micro, phenomena (Layder, 1997). Highly critical of phenomenological, interactionist and even structurationist approaches for overlooking cultural, organisational and systemic enablers and inhibitors, Layder's theory encourages researchers to embrace what he describes as the 'ontological variety' (Layder, 2006) of the social world with 'disciplined epistemological inclusiveness' (ibid: 293) to help reconcile the valid insights and contributions of both objectivism and subjectivism. He suggests this is possible through the interpretation and examination of the social world as existing in several related, but also independent, domains. By going beyond analytical dualism, or by unpacking this dualist thinking into its 'component units' (1997:247), Layder suggests we can better identify and examine the multidimensional, textured and stratified nature of the social world. This perspective, which affords greater ontological depth, better allows the acknowledgement and examination of the richness, complexity and depth of the social world that is otherwise obscured by the reductionist tendencies of other theoretical positions (Layder, 2006).

Whilst this research sought to examine individual women's experiences of freezing eggs for social reasons, it also aimed to look beyond these individual accounts and look more broadly at how the technology and the users themselves were constructed in media discourse. This study also sought to identify what factors and issues women reported as affecting their use of egg freezing technology. Thus this research sought, as Layder describes, to 'combine the analysis of social activity with the institutional forms which provide their backdrop' (1993: 200).

Layder's theory of social domains is predicated on the basis that agency and structure are different but inevitably connected and the relationships between them should not be 'conflated, dissolved or defined out of existence' (2006:268). Layder identifies four interconnected but independent domains, which reflect his variegated model of social reality: psychobiography, situated activity, social settings, and contextual resources.

Significantly, none of these domains have analytical primacy. The two domains 'situated activity' and 'psychobiography' represent the more immediate personalised aspects of social reality, and can be seen as the component units of agentic activity, whereas the domains 'contextual resources' and 'social settings' are by comparison relatively remote and often structural in nature (Layder, 2006). A brief summary of each domain is provided below, and a more detailed discussion of domain theory is provided in chapter four.

**Psychobiography** - Residing in the subjective dimension, psychobiography refers to an individual's unique experience across the lifecourse and traces the impact of 'critical experiences' such as loss, trauma and crisis. The psychobiography is the amalgamation of an individual's beliefs, personality and attitudes.

**Situated activity** - Together with the psychobiography, situated activity has as its main concern the way individuals respond to their social environment through social interaction including intimate exchanges within networks of family and friends.

**Social settings** - Existing in the objective realm of the macrosociological, social settings are the immediate environments in which situated activity takes place. Underpinned by an elaborate social fabric of rules, understandings and expectations, settings might include, for example, workplaces or fertility clinics.

**Contextual resources** - Embracing both material and cultural dimensions, this domain contains both the distributional element and historical accumulation of cultural resources. The distributional aspect focuses on the ways in which material resources can be seen to be allocated in society between groups based on macrosociological forms such as class, ethnicity or gender. Contextual resources also refer to the accumulation of cultural resources such as 'knowledge, mores, artifacts, media representations, subcultural styles, fashion and popular culture' which, Layder argues, are the ultimate source of societal values (ibid: 281).

Whilst they have their own specific characteristics, Layder's domains are significantly intertwined with one another. The domains of psychobiography and situated activity primarily embody subjective and intersubjective phenomena but these are considerably influenced and constructed by the more objective domains. However, these objective domains are perpetuated and 'brought to life' (Layder, 2006:282) by the actions of individuals. This theoretical orientation therefore rejects the view of individuals as

‘isolated self-sufficient units who remain untouched by social processes’ but also eschews the notion of people as ‘automata, unthinkingly moved and moulded by social forces’ (Layder, 1993:6).

The aim to ensure that a focus on one domain does not come at the expense of another led Layder to advocate a multi-strategy approach to data collection, with the intention to ‘open as many strategies and analytical cuts of the data as possible’ (1993:106). Whilst advocating this multi-strategy approach, Layder does not only equate this to mixed methods research studies but recognises the ethical, practical and methodological factors which may prevent the employment of a mixed method approach. Thus, whilst not using a traditional mixed method research design (Clark and Creswell, 2011), this research nevertheless made use of three different methods and strategies to collect research data.

The three data collection strategies utilised were: a content and critical discourse analysis of media articles on the topic of egg freezing, semi structured interviews with users of egg freezing technology, and the use of a short questionnaire to gather the participants' demographic information. These data collection strategies were selected as they were the most suitable means to interrogate the particular domains of interest for this research. The media analysis was able to interrogate and examine the domain of contextual resources, particularly cultural resources. The short demographic questionnaire also sought to collect data in the domain of contextual resources, in particular the distributional aspect of cultural resources, including macrosociological forms such as class and ethnicity. The semi structured interviews examined activity across all four of the domains including the more subjective domains of the psychobiography and situated activity.

## **1.6 The structure of this thesis**

The thesis has ten chapters. Following this introductory chapter, chapters two and three provide additional context via a critical discussion of the salient research on social egg freezing and relevant academic debates around delayed motherhood, reproductive timing and assisted reproduction. Chapter four discusses the methodological approach of the study including a more detailed exposition of the theoretical underpinnings of the thesis. This chapter also contains a discussion of the methodological decisions made and data collection techniques used, explores the ethical issues encountered during this

research and discusses the issue of research rigour. Chapter five presents the methods used by and findings of a UK based media analysis of British printed press on the topic of social egg freezing, critically analysing the framing of egg freezing and the women who undertake it.

Chapters six to eight present data from in depth, face to face interviews with 31 women who have used egg freezing. Chapter six presents the demographic profile of the research participants and the characteristics of the egg freezing cycles they underwent. Chapter six also explores the participants' perceptions of motherhood and the right time for motherhood as well as the participants' perceptions of delayed and older motherhood. This chapter additionally examines the participants' awareness of age-related fertility decline and explores their desire to avoid the practice of what I have termed 'panic partnering'. Chapter seven examines how the participants described making the decision to freeze their eggs and explores the deliberations and ambivalences associated with this decision. Chapter seven also explores how the participants identified and assessed the risks associated with egg freezing and how they responded to these risks. Finally, this chapter examines in detail the factors which the participants reported as motivating them to undergo social egg freezing. The final findings chapter, chapter eight, explores the participants' accounts of preparing for and undergoing social egg freezing; and examines how the participants felt after the procedure was completed, including their current and future hopes and expectations with regards to motherhood.

In chapter nine I present my original contribution to knowledge and demonstrate how through an exploration of three of Layder's four domains it is possible to provide a nuanced understanding of the phenomena of social egg freezing. In this chapter I discuss how, by foregrounding the domain of contextual resources, it is possible to explore relevant concepts of neoliberalism, socio-economic status, gender, biomedicalisation and reproductive ideologies as they influence reproductive timing and the practice and utilisation of egg freezing technology. This chapter also explores the negotiations around parenthood in intimate relationships and draws on Layder's concept of 'critical experiences' to help understand why some women may not undergo the process of freezing eggs for social reasons. The final chapter, chapter ten, presents the conclusion to the study and provides some reflections and recommendations for further research in this field.

## **2 Chapter Two: Social egg freezing research literature**

### **2.1 Introduction**

This is the first of two chapters which contextualises the present study within existing academic, theoretical and conceptual debates. Through a comprehensive review of the literature, this chapter will help situate this study within existing empirical research and will highlight where further research and investigation is warranted.

### **2.2 Empirical research on social egg freezing**

To date few primary research studies have been undertaken on the topic of social egg freezing. However there is growing academic commentary, discussing issues such as its cost effectiveness (van Loendersloot et al., 2011; Devine et al., 2012; Hirshfeld-Cytron et al., 2012), how the procedure should be funded (Mertes and Pennings, 2012; Zoll, Mertes and Gupta, 2015; Mertes, 2015), the choice it gives women in relation to reproduction (Bittner, 2009; Harwood, 2009; Petropanagos, 2010), its initial experimental status (Homburg, van der Veen and Silber, 2009; Rybak and Lieman, 2009), as well as the potential benefits and potential problems for women which this technology brings (Dondorp and De Wert, 2009; Goold and Savulescu, 2009; Mertes and Pennings, 2011; Shkedi-Rafid and Hashiloni-Dolev, 2011; Soliman et al., 2012). Much of this literature has already been examined in the introduction to this thesis, however in order to explore the current state of empirical knowledge on social egg freezing this chapter provides a critical review of the limited body of primary research on the topic. A comprehensive systematic database search was carried out; the resulting literature is presented and discussed below<sup>8</sup>.

In November 2013, and again in July 2015, an English language title search of 13 health, social science, medical, and psychology databases was conducted to identify papers that empirically examined social or psychological aspects of social egg freezing (see table four). This database search, subsequent reference chaining, and the use of

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<sup>8</sup> A version of this literature review has been published as an invited review for the journal 'Human Fertility'. The citation for this article is: Baldwin, K. Culley, L. Hudson, N. Mitchell, H. (2014) Reproductive technology and the lifecourse: Current debates and research in social egg freezing. *Human Fertility* .17 (3) 170-179. (Lead author K.Baldwin)

journal alerts<sup>9</sup>, identified a total of 31 publications which (a) had social egg freezing as a central focus and (b) were based on primary empirical data<sup>10</sup>. This included 11 peer-reviewed journal articles (Stoop, Nekkebroeck and Devroey, 2011; Romain, 2012; Hodes-Wertz et al., 2013; Vallejo et al., 2013; Tan et al., 2014; van de Wiel, 2014; Van de Wiel, 2014; 2015; Ter Keurst, Boivin and Gameiro, 2015; Waldby, 2015b; Waldby, 2015a), 20 published conference abstracts (Gold et al., 2006; Klein et al., 2006; Knopman et al., 2008; Sage et al., 2008; Gorthi, Wright and Balen, 2010; Nekkebroeck, Stoop and Devroey, 2010; Schuman et al., 2011; Bernstein and Wiesemann, 2012; Liu and Greenblatt, 2012; Perl and Zwahlen, 2012; Schuman et al., 2012; De Groot et al., 2013; Gay et al., 2013; Nekkebroeck, Tournaye and Stoop, 2013; Schuman et al., 2013a; Witkin et al., 2013; Lallemand et al., 2014; Stanton and Sussman, 2014; Myers, Daily and Jain, 2015; Tsafirir et al., 2015). Additional empirical data on egg freezing, but which does not have this topic as their main focus, also comes from Daniluk and Koert (2012), Proudfoot et al (2009) and Wennberg et al (2015). Given the small amount of empirical work currently available, this review includes details of these papers and the published conference abstracts where appropriate. The literature collected following the two database searches is presented thematically. The themes identified are: demographic profile of egg freezing users, reproductive intentions and actions of users of egg freezing, attitudes and perceptions of egg freezing held by potential user groups, provider perspectives of egg freezing, egg freezing and the media, motivations for engaging with egg freezing, and experience of undergoing egg freezing for social reasons. Each theme will now be explored in turn.

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<sup>9</sup> The following papers were identified through journal alerts: Keurtst et al (2015), Stoop et al (2015), Wennberg et al (2015)

<sup>10</sup> This search excluded papers such as Van Loendersloot (2011) and Devine (2012) which focused on the cost effectiveness of the technology as well as studies that were reporting on clinic or laboratory protocols or results.



| <b>Databases Searched</b>                   | <b>Search Terms</b>     |
|---|-------------------------|
| Academic Search Premier                     | Oocyte cryopreservation |
| Medline                                     | Gamete cryopreservation |
| Applied Social Sciences Index and Abstracts | Egg freezing            |
| PsycINFO                                    | Gamete freezing         |
| PsycARTICLES                                | Oocyte freezing         |
| CINAHL Plus with full text                  | Fertility Preservation  |
| ABI/INFORM Global                           |                         |
| British Nursing Index                       |                         |
| Science Direct                              |                         |
| Cochrane Library                            |                         |
| Ingenta Connect                             |                         |
| Scopus                                      |                         |

Table 4: Databases searched and search terms used

### 2.2.1 Demographic profile of egg freezing users

Organisations such as the Human Fertilisation and Embryology Authority (HFEA) provide published data on fertility trends and figures, including information about the age of women undergoing fertility treatment such as IVF and ICSI. However, until very recently (March 2016) there were no official statistics in the UK which provide similar information on users of egg freezing technology (HFEA, 2016). Furthermore, the small amount of data which now has been provided by the HFEA is unable to discriminate between women engaging in egg freezing for social reasons and women doing so for medical reasons. As such, little is known about the demographic profile of users of social egg freezing except for the information presented in a small number of UK (Waldby, 2015b; 2015a), American (Romain, 2012; Vallejo et al., 2013; Hodes-Wertz et al., 2013), Israeli (Tsafrir et al., 2015) and Australian (Perl and Zwahlen, 2012) studies. These studies provide an emerging profile of the typical user of egg freezing which shows that they are most often: white; aged 35 years and over at the time of undergoing the procedure; not in relationships; living in urban areas; highly educated, holding a minimum of an undergraduate degree (but often further professional and postgraduate qualifications); working in professional occupations typically earning in excess of £55,000 per year. Such findings, though based on small self-selecting

samples, demonstrate how a very particular group of economically empowered, upper middle class women are the main users of egg freezing technology. This profile likely reflects the economic resources required to undergo the procedure but also reflects the target demographic of clinics that offer egg freezing as reflected in their advertising:

‘As women, we lead rich and demanding lives – obtaining advanced degrees, pursuing successful careers, and taking better care of ourselves. We have an astounding number of opportunities and as a result, many of us choose to start our families later than our mothers and grandmothers.’ (Extend Fertility,).

### 2.2.2 Reproductive intentions and actions of users of egg freezing

Currently, little is known about the reproductive intentions and actions of users of this technology; only two published studies to date have reported the subsequent reproductive actions of such women (Hodes-Wertz et al., 2013; Stoop et al., 2015). Hodes-Wertz reported that since undergoing the procedure only 11 out of 183 (6%) of their participants had returned to use their eggs in fertility treatment, three of whom reported that a pregnancy was achieved<sup>11</sup>. Twenty percent of the participants reported conceiving a pregnancy since freezing their eggs through natural conception, IVF with fresh eggs or frozen eggs, or through a cycle of insemination<sup>12</sup>. Since freezing their eggs, 60% of participants reported that they believed it to be ‘somewhat likely’ that they would use their frozen reserve of eggs in fertility treatment in the future, 34% reported it being ‘very likely’ and a smaller proportion, 6%, reported that it was ‘unlikely’ that they would ever return to use their eggs. A similar retrospective cohort study of 140 women who had frozen eggs found that only half anticipated using their eggs to conceive in the future, with almost 30% of women stating that they now considered it less likely they would use their eggs than they anticipated at the time of banking (Stoop et al, 2015).

Other studies from Nekkebroeck et al (2010), Schuman et al (2013), Perl and Zwahlen (2012) and Waldby (2015b) provide some data on the reproductive intentions of users of this technology. In their research, examining women who had frozen eggs for social

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<sup>11</sup> The survey undertaken by Hodes-Wertz (2013) gathered data from women who had frozen their eggs between 2005-2011, thus it is likely some of the women would have only undergone the procedure in the previous two years and therefore may not yet have considered returning to use them to conceive.

<sup>12</sup> Hodes-Wertz et al (2013) do not provide data on whether such insemination was from donor or partner sperm.

reasons, Waldby (2015b) and Nekkebroeck et al (2010) report that the use of frozen eggs to conceive a child was seen as a 'last resort option' with their participants stating an intention to only use their eggs to conceive if their preferred scenario, which was to have a child naturally with a partner, failed. Should they be unable to conceive with their frozen eggs, 26.7% of Nekkebroeck et al's participants suggested they would pursue single motherhood through sperm donation. Perl and Zwahlen (2012) also reported support for alternative means of family building; amongst their participants, just under half stated they would consider motherhood via donor sperm. Whilst Schuman et al (2013) reported that 50.8% of women in their sample would turn to donor eggs to conceive should they be unable to use their own eggs in treatment, the participants in Waldby's (2015b) study held more negative attitudes towards donor eggs and instead reported the intention to adopt rather than use another woman's eggs in fertility treatment.

When asked what they would do should they never require their frozen eggs in fertility treatment, participants in research by Nekkebroeck et al (2010) as well as Hodes-Wertz et al (2013) indicated a clear intention to donate unwanted eggs to scientific research or to other women for use in fertility treatment. Such intentions suggest that unwanted eggs originally frozen by women for social reasons could help meet demand for eggs in a clinic or laboratory setting, if they were retrieved from a woman who was aged 35 or younger at the time of freezing.

### **2.2.3 Attitudes and perceptions of egg freezing held by potential user groups**

Whilst only a small number of studies have examined the reproductive intentions and actions of users of egg freezing technology, research examining the attitudes and perceptions of this technology held by potential user groups has been undertaken by several authors (Proudfoot, Wellings and Glasier, 2009; Gorthi, Wright and Balen, 2010; Stoop, Nekkebroeck and Devroey, 2011; Daniluk, Koert and Cheung, 2012; Lallemand et al., 2014; Stanton and Sussman, 2014; Tan et al., 2014; Ter Keurst, Boivin and Gameiro, 2015). Research examining the attitudes and intentions of potential users of social egg freezing has shown that, while they support women's access to the technology, many women do not believe it is something they would engage in or need to engage in at their current time of life (Stanton and Sussman, 2014; Ter Keurst, Boivin and Gameiro, 2015).

Early research examining potential user perceptions of the technology by Stoop et al, (2011) found that, of their survey of 1049 women, only 3.1% would definitely consider the procedure and 31.5% might consider freezing their eggs. However, the majority (51.8%) stated they would not consider making use of the technology. The literature search undertaken for the present study identified only two studies that have examined potential users' perception and intentions in the UK (Gorthi, Wright and Balen, 2010; Ter Keurst, Boivin and Gameiro, 2015). Gorthi et al (2010) surveyed 195 female undergraduate students studying medicine (n=98), sports science (n=45) and education studies (n=52). This study has not been published in full and the conference abstract provides only limited data, but states that almost 50% (n=48) of sports and education students reported they would consider delaying childbearing for social reasons and from this group a further 46% (n=22) stated that they would consider using egg freezing. The majority of medical students (86%, n=84) stated they would delay childbearing for social reasons and a further 68 of these students (80.9%) said they would consider undergoing egg freezing. A more recent study by Keurst et al (2015) surveyed 257 women aged between 28-35 years of age who wished to have children. This research identified that whilst the overall number of participants with intentions to use egg freezing to prevent age-related infertility was low, the later that women expected to have their first and last child the more likely they were to consider using egg freezing. This study noted that whilst low numbers of the research participants had intentions to use egg freezing, this was linked to a lack of perceived need to engage with the technology due to the low perception of being susceptible to fertility problems, rather than due to negative attitudes about the procedure, a lack of acceptance from significant others, or not feeling able to use it.

Support for egg freezing has been noted in research examining both women and men's perception of the technology (Daniluk, Koert and Cheung, 2012). In their survey examining childless Canadian men and women's intentions toward and willingness to use assisted reproductive technologies, (Daniluk, Koert and Cheung, 2012) found that 35% (n=690) of women said they would consider freezing their eggs for future use. A similar study based in Scotland examining 243 women's fertility intentions found that of those who do or may want children (n =116), 43% (n=50) of women answered 'maybe' and 3% (n =4) answered 'yes' to a question asking them whether they would consider egg freezing (Proudfoot, Wellings and Glasier, 2009). A larger study undertaken in the United States surveyed 337 graduate students and young professionals

about their knowledge of and intentions toward social egg freezing (Gay et al., 2013). This study found that the majority (92%) of the participants were aware of the possibility of social egg freezing and 39% would consider freezing their eggs in the future; however, this increased to 60% for those participants who had a good knowledge of age-related fertility decline. Interestingly, and in contrast to the findings from Gorthi et al (2010), this study found that medical students were less likely to consider social egg freezing compared to the other students surveyed. Research by Tan et al (2014) undertaken in Singapore reported that only a quarter of the participants surveyed in their sample (n=126) would consider egg freezing; however this increased to 71% if the cost of the procedure was lower or if it was subsidised by the government. This suggests that the cost of egg freezing continues to be a significant barrier to use. Finally a recent study from Wennberg et al (2015) which sought to investigate women's attitudes towards ART procedures not legislated for in Sweden, including egg freezing, identified that in a sample of over 1000 women, 70% viewed egg freezing for social reasons positively. Furthermore this research also reported that 47% of participants were open to the possibility of engaging in social egg freezing themselves, a figure somewhat higher than that reported by Stoop et al (2011) and Tan et al (2014).

#### **2.2.4 Providers' perspectives on egg freezing**

Whilst the number of women undergoing egg freezing for social reasons in the UK and overseas is currently unknown, research has been undertaken in the UK (Waldby, 2015b; 2015a), Germany (Bernstein and Wiesemann, 2012), America (Romain, 2012; Vallejo et al., 2013) and Canada (Liu and Greenblatt, 2012) examining providers' perceptions of egg freezing for social reasons. These studies have indicated that the majority of providers support egg freezing but hold some concerns about the technology. Research by Bernstein and Wiesmann (2012), which surveyed 136 reproductive medicine specialists across 108 German fertility clinics, reported that the majority (68.4%) of clinics offered social freezing and believed it was morally acceptable to do so on the grounds of gender equality and reproductive autonomy. However, over half (56.6%) of these specialists also expressed concern about the physical risks of late pregnancies and 51.5% stated they would endorse an upper age limit on women for the implantation of previously frozen eggs.

The age limit for undergoing egg freezing varies across countries and between clinics. Research by Liu and Greenblatt (2012) examining Canadian fertility clinics found that most offered egg freezing up to the age of 42 years; however 28.6% of clinics did not offer egg freezing to women aged under 35 and 42% did not offer it over the age of 38, thus reflecting much tighter regulation than in the UK or USA. Whilst Vallejo et al (2013) identified much less regulation of egg freezing in the USA, their survey of 13 physicians and five specialist nurses and IVF coordinators indicated that 56.3% of their respondents believed it was best for women to undergo egg freezing by the time they turn 35. This research also found that the mean upper acceptable age limit for egg freezing was around 40 years of age.

As well as providers raising concerns about the safety of pregnancies in older women, fieldwork undertaken by Romain in 2004 identified further concerns held by staff who suggested that women might delay motherhood even further than they are currently doing so as a result of this technology. Romain also noted how clinic staff also suggested that the availability of the technology could undermine the development of family friendly policies in the workplace (Romain, 2012).

Currently, in the UK 65 HFEA registered clinics offer egg freezing, however only one UK study examining the phenomenon of social egg freezing has included clinic staff in their analysis (Waldby, 2015b; 2015a). Similar to Vallejo's respondents, this research found that there was an expectation among clinic staff that demand for social egg freezing would rise without the need for the clinic to advertise the service. This was attributed to the rising levels of interest in the technology which had meant it had become a popular topic in both the human interest/women's sections of the news media and in women's magazines.

### 2.2.5 Egg freezing and the media

It has been noted by authors such as Seale (2003) how the media plays a prominent role not only in the dissemination of health information but also in influencing public opinion and understanding of a range of health issues and technologies. Egg freezing has recently become a popular topic in the news and internet media (Todd, 1999; Hass, 2011). As such, it is of no surprise that 93% of the professional women aged 25-35 surveyed by Stanton et al (2014) were familiar with the idea of social egg freezing. This research, as well as that of Waldby (2015b), reports that women often learn about egg

freezing from the media. As such, research by Martin (2010) and Van De Wiel (2014) has examined the presentation of egg freezing in the media.

In her research, Martin (2010) undertook ethnographic fieldwork combining a qualitative review of scientific journal articles, newspaper reports and marketing materials with participant observation of patient recruitment seminars on the topic of egg freezing. This study contrasted the representation of women undergoing egg freezing for medical and social reasons and noted how those using the technology for social reasons were simultaneously portrayed by the media as selfish delayers of childbearing, as vulnerable to exploitation and as 'liberated' and forward-thinking individuals. Similar findings were reported by Van De Wiel (2014) in her media analysis of egg freezing coverage in two newspapers in the UK and the Netherlands<sup>13</sup>. Van De Wiel also described how newspaper coverage constructed women's bodies as problematic or risky through narratives of decline and failure and suggested that egg freezing may not simply indicate the reproductive choice to have children, but also the choice or desire to have continued reproductive potential in the face of pervasive cultural messages about the ticking biological clock and of time running out. Like Van De Wiel, Martin (2010) also suggested how egg freezing can be seen as a clear illustration of the medicalisation of women's bodies. She also suggested how the advent of social egg freezing gives rise to a new ontological category of 'anticipated infertility' and posits that this technology has the potential to medicalise the behaviour or intentions of a significant population of otherwise healthy women. Building on this work, in her analysis of the documentary 'Eggs for Later' (Schellart, 2010), Van De Wiel (2014) notes how the medical, political and personal discourses on egg freezing give insight into the anticipatory terms in which issues such as age-related infertility are understood and suggests that egg freezing can be seen as a form of biopreparedness for the future.

### 2.2.6 Motivations for engaging with egg freezing

Whilst media articles speculating on women's motivations for egg freezing can be found as early as 1999 (Todd, 1999), it has only been within the last four to five years that research has begun to provide insight into women's decision to freeze their eggs for

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<sup>13</sup> Van Der Wiel (2015) analysed the coverage of egg freezing in 'The Guardian' newspaper in the UK and 'Volkskrant' in the Netherlands published between 2000 and 2012

social reasons. However to date only the research undertaken by Waldby (2015b; 2015a), and the data collected for the present study, has qualitatively examined in-depth women's experience and motivations for engaging in egg freezing for social reasons. Data from Waldby (2015a; 2015b), as well as that from clinic based research such as Nekkebroeck et al (2013) and Hodes-Wertz et al (2013), has identified the lack of a partner as one of the most common and significant reasons that women provide for undergoing egg freezing. Also related to the decision is the requirement for more time to find a partner, or to take the pressure off new relationships, as well as the desire on behalf of the woman to synchronise their biological clock with other timelines in their lifecourse (Waldby, 2015b). In addition to reporting difficulties in securing a relationship, participants such as those in Waldby's research (2015b), reported the prohibitive expense of the London housing market as a further reason why they had not yet felt ready to pursue motherhood and had thus turned to egg freezing. Whilst not identified as a significant factor influencing the use of egg freezing technology in other studies, Hodes-Wertz et al (2013) noted that 19% of their participants added that workplace inflexibility also contributed to their reproductive dilemma and eventual use of egg freezing.

Other studies, such as Witkin et al (2013), have highlighted the role of fear and regret in the decision to freeze eggs, noting how women reported the avoidance of guilt and blame as a reason for undergoing the procedure. Many women in Witkin et al's research, and also other studies, referred to egg freezing as an insurance policy against unwanted childlessness as they sought to become a mother with a male partner in the future. This desire to pursue parenthood with a committed male partner reflected desires of many of the participants in Myers et al's (2015) study, who rated having a male partner who was committed and ready for children as 'very' or 'extremely' important to them. This was also reported by Waldby (2015b) and Romain (2012) who noted the pivotal role egg freezing played in the construction of a future family where women desired a genetic relation with both their future partner and the future child.

### **2.2.7 Experience of undergoing social egg freezing**

Of the 11 published papers collected for inclusion in this review, only four collected primary research data from current or past users of egg freezing (Romain, 2012; Hodes-Wertz et al., 2013; Waldby, 2015b; 2015a). As such very little is known about users'



experiences of undergoing social egg freezing. Furthermore, of these four papers only three (Romain, 2012; Waldby, 2015b; 2015a) qualitatively examine the experience of egg freezing for social reasons in depth. However, supplementary survey data from Perl and Zwahlen (2012) and Hodes-Wertz et al (2013) provides some qualitative insight into the experience of the procedure.

Perl and Zwahlen (2012) surveyed 20 women, five of whom took part in an interview, about their experience of freezing eggs for social reasons. They reported that participants found the process of freezing eggs emotionally challenging, with the most difficult challenges reportedly being going through the fertility clinic as a single woman (80%), not having a partner at this stage in their lives (85%) and not sharing what they were doing with others (55%). By contrast, in their survey Hodes-Wertz et al (2013) reported that over half of their participants described their experience of egg freezing as 'empowering' (53%) but also anxiety producing (36%).

Romain (2012) described her participants' engagement with egg freezing as engendering the hope for a better future; she stated that "the women who froze their eggs created hope by holding off known and looming possibilities for the future [...] creating for themselves futures that were open and unknown, ones that retained the possibility of 'having it all'" (2012:190). In line with Van de Wiel's observations, Romain suggested that discourses of time running out and the biological clock deeply informed how her participants understood their reproductive potential. Romain also noted how the experiences of her participants could be seen as firmly rooted in heteronormative discourses of family and genetic determinism, filtered through economic frameworks of investment and insurance. Waldby (2015a) reported similar findings from her research, in particular her participants' desire for an intimate heterosexual partnership for the basis of family building.

### 2.3 Limitations of existing research

Much of the research discussed above comes from data generated for reasons other than research, such as clinical audits of past or prospective users of egg freezing (Klein et al., 2006; Knopman et al., 2008; Sage et al., 2008) as well as from retrospective analyses of existing clinic data such as psychological consultations (Gold et al., 2006; Schuman et al., 2011; Witkin et al., 2013; Stoop et al., 2015). As such, the data generated is only able to provide limited insight into the phenomena of social egg freezing. Furthermore,

as much of this data was collected from a biomedical and not social science perspective it does not engage in a discussion of, or reflect upon, the social conditions which give rise to women's use of the technology. As a result, whilst data such as that from Nekkebroeck et al (2013) and Hodes-Wertz et al (2013) indicates that women seek to use the technology due to their lack of a partner, these studies are unable to provide any further contextual information nor any further analysis or description about the reasons behind a woman's single status or their desire for a partner. The biomedical approach of many of these studies reflects the fact that the authors of these papers are often medical professionals delivering the technology to female users in a clinic setting. As a result much of the discussion they provide, whilst useful, omits any reflection on the social, economic and structural factors affecting women's decision making. Research such as that from Lucy Van De Wiel, which examines the topic of social egg freezing from a critical feminist standpoint, provides much in terms of opportunities for theorising women's experiences. However her research has not directly examined female users' experience and instead her research outputs are based on media analysis of newspaper articles (2014) and a documentary (2015).

Finally the three papers which did examine the experience of social egg freezing come from the only two authors identified in this review who qualitatively explore women's experiences (Romain, 2012; Waldby, 2015b; 2015a). Whilst these two pieces of research provide some new and interesting insights, the authors have only published a small amount from this research. Furthermore the data Romain collected is now over a decade old and therefore does not reflect or take into account the significant changes in the technology and perception of this technology that have been seen over the last 10 years. The recent research undertaken by Waldby on this topic provides the most useful insight into the phenomena of social egg freezing despite her comparatively small sample<sup>14</sup> of female users (N=15). However neither of her publications included in this review provided a detailed account of participant experiences through the use of rich and verbatim quotes. Instead, in line with her other work, Waldby (2015b; 2015a) provides a detailed exposition of the role of egg freezing in what she has referred to as the 'oocyte tissue economy' (Waldby, 2006). As such, there remains a significant gap in knowledge about women's experience of egg freezing for social reasons, their motivations for engaging with the technology and the reproductive intentions and

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<sup>14</sup> Compared to my research which has interviewed 31 users of this technology.

actions of the users. It is this lacuna in knowledge which this research study has sought to address.

This chapter, the first of two which seeks to orient the reader to the salient debates and research on social egg freezing, has provided a comprehensive review of the empirical literature, highlighting existing gaps in social science knowledge. The following chapter will further contextualise the present study within additional theoretical and conceptual debates, examining topics allied to egg freezing such as normative lifecourse expectations, gendered parenting styles, neoliberalism, reproductive timings and the right time for parenthood.

### 3 Chapter Three: Conceptual literature

#### 3.1 Introduction

The aim of this chapter is to orientate the reader to some of the salient academic and feminist debates which contribute to and help contextualise the phenomenon of social egg freezing. As indicated in the first chapter of this thesis, this research draws on Layder's theory of domains to establish the ontological, epistemological and conceptual basis of the thesis. A more detailed discussion of domain theory and how it has been integrated into this thesis, as well as the relationship between this theory and the methods used in this research, is provided in the following chapter. However, Layder's theory of domains has also been deployed in this chapter as an organisational device. As will be discussed in greater depth in the following chapter, through the use of 'selective focusing' (Layder, 1993) this research emphasises the following domains: contextual resources, psychobiography and situated activity. The selection of material discussed in this chapter reflects these domains. For the purposes of this chapter a brief outline of the three pertinent domains, and how the literature explored relates to them, will now be provided.

The first domain to be explored in this chapter is contextual resources. This domain includes both material and cultural dimensions and focuses on the ways in which resources can be allocated in society between groups, based on macrosociological forms such as class and gender. Contextual resources also refer to the accumulation of cultural resources such as discourses, ideologies, and cultural artefacts. The domain of contextual resources is discussed in this chapter via the inclusion of concepts such as neoliberal rationality and macrosociological factors such as class and gender, as well as ideologies of intensive mothering (Hays, 1998). The relevance of preconditions for parenthood, which are often shaped by gender and social class, are also explored in this discussion, as well as the reaction of feminist academics to the development and proliferation of assisted reproductive technologies. As part of the cultural dimension of this domain, the ways in which these new technologies have been received and debated by feminist authors provides important context to ongoing debates around social egg freezing.

The second domain explored in this chapter is that of the psychobiography. This domain refers to an individual's unique experience of the lifecourse and how they respond to it, but also recognises and accepts the presence and effects of social constraints and expectations on individual behaviour. This domain is explored through the examination of concepts such as reproductive timing, the lifecourse and lifecourse expectations.

The third domain which this thesis examines in depth is situated activity. This domain is concerned with the way individuals respond to their social environment through interaction, including intimate exchanges within networks of family and friends. The situated activity of interest in this research is the role of male partners in the timing of parenthood and how decisions about the timing of parenthood are influenced by negotiations within the couple unit. However, beyond the work of Kemkes-Grollenthaler (2003) and Berrington (2004), which briefly explore the influence of male partners on the timing of parenthood, there is very little literature available on this topic. This limited research suggests that male partners' intentions and desires regarding childbearing influence the timing of first pregnancies among women (Chalmers and Meyer, 1996; Dudgeon and Inhorn, 2004) as well as their childbearing desires (Lazarus, 1994; Kemkes-Grollenthaler, 2003). However, some authors have suggested that there is only weak evidence that conflicting partner intentions reduce the chances of birth in childless women in their 30s (Berrington, 2004). The absence of any detailed literature examining the relationship between men's reproductive intentions and desires and the actions of their female partner is therefore a significant omission in social scientific research examining the topic of reproductive timing. The rest of the chapter therefore focuses specifically on the first two domains: contextual resources and psychobiography.

## **3.2 Contextual resources**

### **3.2.1 Neoliberalism and anticipated decision regret**

Neoliberalism is considered by some authors to be the dominant social, political and economic ideology shaping our world today (Saad Filho and Johnston, 2004). Often associated with the politics of Thatcher in the UK and Regan in the USA, neoliberalism is about the transformation of social, political and economic values to favour the 'rolling back' of the powers and responsibilities of the state away from a providing social state and towards that of an enabling state (Brown and Baker, 2012).

Promoting individualism, consumerism and the transferring of state power and responsibility to the individual, neoliberalism renders the political subject free, empowered and positively encouraged to construct their lives through their own choosing (Brown and Baker, 2012). In neoliberal governmentality individual actors are cast as responsible for managing their individual biographical projects and, as such, the consequences of their actions, or inactions, are understood as solely their own regardless of the constraints on their behaviour or choices (Rose, 1990; 1999; Gill, 2007). Drawing on seemingly neutral values of choice, autonomy, identity and self-realisation, which are in actuality entangled in discourses of individualism and consumption (Wilkes, 2015), neoliberal rationality is premised on the notion that individual actors must render their lives meaningful through their actions in the pursuit of self-realisation (Rose, 1999). Thus Rose suggests that social actors are called to understand and experience their lives as not as the outcome of a series of happenings or turns of fate, but as reflective of their own personal desire and actions. As such, the neoliberal individual is regulated and governed through the foregrounding of individual's capacity for freedom and self-government, whilst compelling action, or inaction, through a process of responsibilisation.

The emergence and deployment of genetic tests, screening and other technological advances have been described by authors such as (Tymstra, 2007) as 'risk individualising technologies' due to the way they can make an unknown, or ill-defined, risk explicit for a specific person. Tymstra has noted how individuals often find it difficult to refuse new technologies when they are offered to them and has highlighted their highly compelling nature (Tymstra, 1989; 2007). In his research, undertaken during the early years of IVF provision, Tymstra reported that patients commonly reported wanting to make use of IVF technology because they "might be sorry later" if they didn't "seize the chance," or because they wanted to know that they had done "everything possible" to conceive. He therefore concluded that 'preventing feelings of regret appears to be a motive for undergoing IVF' (1989:211). This notion of wanting to do everything possible can therefore be linked to the fear of failing to engage sufficiently with opportunities such as medicalised reproduction, regretting such inaction and being blamed for any adverse consequences such as involuntary childlessness. This fear of anticipating future regret has been identified in numerous studies examining medical decision making (Chapman and Coups, 2006; Ziarnowski, Brewer and Weber, 2009). Furthermore, research by Sandelowski (1991) and Throsby

(2004) has shown how anticipatory regret is a major motivating factor influencing individuals to engage, and persist, with assisted reproductive technologies.

Tymstra further notes how new medical-technical possibilities take on an imperative character, making it difficult for individuals to refuse engagement with them. This desire to engage with opportunities when they arise can be seen as one of the outcomes of what Adams (2009) describes as the ‘defining quality of our current moment’ which is the ‘characteristic state of anticipation, of thinking and living toward the future’. Adams suggests there is a ‘moral responsibility of citizens to secure their best possible futures’ (2009:1755). Such neoliberal sentiments, which reflect values of consumption, empowerment and self-determination, therefore provide some explanation as to why individuals may find it difficult to turn down the promise of new technologies.

The role that new biomedical and technological developments play in the construction and interpretation of risk is explored in more detail in chapter nine.

### **3.2.2 Preconditions for parenthood**

Research by Perrier (2013), which examined women’s perceptions of reproductive timing, reported that participants were unable to identify a specific right age for first time motherhood and instead drew on multiple dimensions of age. These dimensions included the right age for motherhood physiologically or psycho-socially. However, Perrier also noted that these women paradoxically still sought to have a child at what they believed was the right time. For the women in her research, the right time for motherhood was affected by a number of different social, psychological and biological factors that together influenced whether they felt ready or not to pursue motherhood. Research examining men’s and women’s reproductive intentions has reported that respondents commonly frame their ‘readiness’ for childbearing in terms of how prepared they perceive themselves to be to take on the role of a parent. This is often linked to whether they feel they have accumulated what they perceive as, and what I have termed, specific ‘preconditions’ for parenthood. These preconditions include corporeal, cultural and relational resources which are seen as necessary to ensure that both parents’ and future children’s needs can be met.

Cultural notions of individuals’ lives changing irreparably following the transition to parenthood (Sevón, 2012) have led to the emergence of the notion that one should ‘do

other things first', or prior to becoming a parent. This has been explored by Bergnehr (2007; 2009) who reported a common assumption, indeed social expectation, that before pursuing parenthood individuals should engage in a period of self fulfilment and exploration: taking part in experiences that parenthood may otherwise inhibit. Such experiences include education and training, travelling, socialising with friends, taking up hobbies and getting to know their partner. Bergnehr further suggests that such a period of little responsibility is perceived as important not just for the self, but so as to prevent resentment and regret about missed experiences after taking on the role of parent, thus reflecting a highly individualized approach to the lifecourse. This is supported by Proudfoot et al (2009) who identified 'having other distractions in life' as one of the most commonly cited reasons by women aged 33 and older for not yet pursuing pregnancy.

The importance of stability in one's own life before beginning childbearing can also be found across many studies examining reproductive timing. Such research has found that having a stable life is linked to having a secure job and income and thus being in a financially secure position to afford parenthood (Marsiglio et al., 2000; Tough et al., 2007; Wiebe, Chalmers and Yager, 2012). Other significant factors include having completed education, being entitled to the full scope of parental leave and sharing or owning a home suitable for childrearing (Lampic et al., 2006; Bergnehr, 2007; Bergnehr, 2009; Sol Olafsdottir, Wikland and Möller, 2011; Birch Petersen et al., 2015). Such markers of stability have been identified by the participants in these studies as indicative of the right time for parenthood.

However, by far the most commonly reported reason cited in the research literature by men and women who desire parenthood in the future, but were not yet pursuing parenthood, related to their relationship status. Research from numerous authors (Benzies et al., 2006; Tydén et al., 2006; Bergnehr, 2007; Tough et al., 2007; Bergnehr, 2009; Sol Olafsdottir, Wikland and Möller, 2011; Eriksson, Larsson and Tydén, 2012; Wiebe, Chalmers and Yager, 2012) has shown how the desire for a secure and stable relationship is identified as the most important precondition men and women consider when planning for parenthood. Such research has also indicated that in addition to being in a stable relationship, men and women report that the belief that their partner would be a good parent, and was equally committed to childbearing, was also important to them when planning for parenthood (Benzies et al., 2006; Tydén et al., 2006; Tough et al.,



2007; Bergnéhr, 2007; Bergnéhr, 2009; Sol Olafsdottir, Wikland and Möller, 2011; Eriksson, Larsson and Tydén, 2012; Wiebe, Chalmers and Yager, 2012). Further evidence demonstrating the importance of pursuing parenthood as part of a committed relationship comes from Proudfoot et al (2009). Proudfoot et al surveyed 234 childfree women aged 34 years and older who were using contraception to prevent motherhood. Less than 20% of the participants in their survey reported that they would consider having a child outside of a stable union. Having the full commitment of their partners, and for parenthood to be a mutual desire, is therefore significant for women before attempting pregnancy. The significance of male partners' desires for parenthood, as well as the commitment to pursuing parenthood as a joint project as reported by women, arguably reflects the shift in the expected role of fathers in the lives of their children. This shift has seen men's role as fathers move away from that of detached authoritarians to engaged, nurturing and attentive, with men taking part in fathering activities even before the birth of the child such as attending ultrasound scans and attending antenatal classes (Smith, 1999). This shift, often referred to in academic literature as the 'new fatherhood' (Henwood and Procter, 2003), has seen expectations about fathers change and reflects men's increased presence in the raising of children and contribution towards family life.

As this research literature demonstrates, both men and women identify certain preconditions as important to achieve prior to engaging in parenthood, these preconditions therefore influence their perceptions about how 'ready' they are to become a parent.

### 3.2.3 Gendered parenting 'styles'

A further factor identified as influencing women's reproductive intentions is the way in which they intend or expect to mother, particularly their expectation to engage in what has been termed 'intensive mothering' practices (Hays, 1998). The ideology of intensive mothering is a highly gendered model of parenting which 'requires the day-to-day labor of nurturing the child, listening to the child, attempting to decipher the child's needs and desires, struggling to meet the child's wishes, and placing the child's well-being ahead of their [mothers'] own convenience' (Hays, 1998:115). This ideology requires the expenditure of significant amounts of time, energy, effort and resources when raising a child (Butler, 2010) and is often seen as indicative of good parenting (Caputo, 2007).

Whilst there are several competing ideologies surrounding contemporary motherhood, the intensification of mothering (Furedi, 2008) has been identified as the most pervasive, as evidenced through parenting magazines, blogs, websites and social media, as well as several research studies (Wall, 2001; Johnston and Swanson, 2006; Butler, 2010; Lakämper, 2015). It is possible that the intention or expectation to mother intensively may lead women to delay childbearing until a time when they believe they are able to approach motherhood in such a way (Bergnéhr, 2007). This is particularly significant for women without partners, as it has been suggested that to be successful in achieving this ideal of motherhood, women often require a helping and engaged partner (Fox, 2009).

### **3.2.4 The significance of socio-economic status**

There is a wealth of sociological literature examining teenage motherhood which explores the links between reproductive timing and socio-economic status (McDermott and Graham, 2005; Al-Sahab et al., 2012; Minnis et al., 2013). This literature has identified links between early motherhood and lower socio-economic status. However, it is important to recognise that the participants in most research examining prospective, rather than retrospective, reproductive intentions have generally been drawn from predominantly middle class populations (Sevón, 2005; Lampic et al., 2006; Daly, 2011). As Perrier (2013) notes, in these instances, and in much academic scholarship, the right time for motherhood is evaluated according to middle class life expectations and a chronology which includes education, independence, career and then motherhood. Thus the academic discussion of appropriately timed motherhood is often marked with reference to particular middle class milestones which include university education, travel, internships and training, professional careers and home ownership. The expectation of intensive mothering is also arguably mediated by class and is considered the dominant mothering ideology of privileged, married, middle class mothers who can afford to stay at home with their children (Hays, 1998). Therefore, the desire to have certain conditions in place before childbearing, and thus the inevitable delay this engenders, must be read in context with these ideologies and expectations which middle class non-mothers are likely to draw upon when envisioning or planning motherhood.

### **3.2.5 Understanding the ‘choice’ to ‘delay’ motherhood**

As discussed above, many studies have reported a shared desire among middle class individuals, but particularly women, to be sufficiently prepared for parenthood through the acquisition or fulfilment of a number of specific preconditions which they believe will enable them to best perform the role of a parent. Therefore, for some individuals, the lack of such preconditions could lead to a delay in embarking on parenthood. However, despite this, the discourse around delayed motherhood is most commonly linked to the assumption that women seek to 'put off' becoming a mother for reasons related to their career (Budds, Locke and Burr, 2013).

The term 'delayed' motherhood is contested in much academic literature examining reproductive timing and is recognised as a term culturally loaded with assumptions about women's ability to 'choose' when to become a mother. This suggestion is likely linked to the affordances contraceptive technologies have provided women and as a result it is assumed that women are able to exert equal control over the timing of conception (Earle and Letherby, 2002; Shaw and Giles, 2009). The idea that women can time pregnancy gives rise to the notion that some women actively elect to 'delay', 'put off' or 'defer' motherhood till the time of their choosing. The implications are that older mothers are then perceived to have chosen to have children later in life and have thus also elected to attempt pregnancy outside of the biologically optimum time, with the associated risks to themselves and their babies. However, research examining women's accounts of motherhood, particularly older motherhood, have demonstrated how this is often not the outcome of deliberative choice and planning, but as a result of various factors often outside of an individual woman's control (Cooke, Mills and Lavender, 2010; 2012; Jarvie, Letherby and Stenhouse, 2015). Furthermore, it has been argued that the suggestion women can simply choose when to have children 'boasts ignorance of the social structures that shape, confine and influence the choices women make' (Petropanagos, 2010:57). One structural factor identified as influential but often absent from lay discourses about reproductive timing is the effect that time out of the labour market has on women's earning capacity and career prospects (Bassett, 2005; Baker, 2010). Research suggests that that women experience a 'child penalty' or 'motherhood penalty' when seeking to combine earning and childbearing (Baker, 2010), with a substantial earnings gap between mothers and women without children. Research has also suggested that the combination of paid work and motherhood is particularly challenging in roles which require high levels of qualifications and continual productivity, such as university teaching and research (Bassett, 2005). Thus, to

effectively understand reproductive timing it is important to note how employment, social structures, societal perceptions and values and women's relationships with intimate partners can influence their reproductive actions.

Despite research identifying the social, structural and relational constraints on women's reproductive decision making, dominant discourses about women's ability to 'choose' when to have children has meant that those who become mothers at the 'wrong' time, be that too early or too late, endure criticism for their 'inappropriate' reproductive choices (Smajdor, 2009; Budds, Locke and Burr, 2013). This can be seen in media discourses which commonly construct older mothers, particularly those who use ARTs to conceive, as 'selfish' 'risky' and 'unnatural' (Hadfield, Rudoe and Sanderson- Mann, 2007; Shaw and Giles, 2009; Campbell, 2011; Budds, Locke and Burr, 2013). This has led some feminist authors to suggest that there is an 'illusion of choice' in relation to motherhood, as whilst women are said to have freedom of choice about when, or if, to pursue motherhood, in reality this choice is shaped by social expectations about the right time for motherhood biologically, as well as socially (Earle and Letherby, 2002; Budds, Locke and Burr, 2013). In addition to expressing concerns about the role of childbearing in women's lives, feminist authors have also articulated anxieties about the advent and use of assisted reproduction techniques.

### **3.2.6 Feminist responses to assisted reproductive technologies**

The proliferation of assisted reproductive technologies and the pace at which they have become normalised and routinised in society has cemented their interest in feminist scholarship (Franklin, 1997; 2013; Thompson, 2002). The wealth of feminist writings on this topic has helped to document and produce not only in-depth knowledge and analyses of the application of these technologies, but has also drawn attention to the paradoxical tension of their use (Thompson, 2005), as well as how these techniques are both gendered and reproduce gender relations (Almeling, 2011; Courduriès and Herbrand, 2014). The feminist reception and responses to the development and widespread use of ARTs can be broken down into two discrete phases with differing concerns and preoccupations (Thompson, 2005).

Whilst Shulamith Firestone (1970) famously suggested that gender inequalities could be overcome through the use of artificial reproduction, such optimism about the potential

benefits of ARTs was initially countered by a highly sceptical feminist reception (Stanworth, 1987). This first phase (1984-1991) of responses to reproductive technologies was highly critical and suspicious of new technologies which were perceived as examples of creeping medicalisation and as reflective of an expansion in patriarchal control over previously inviolable areas of women's health (Oakley, 1984; Rothman, 1986; Terry, 1989; Strickler, 1992). These concerns were set against a backdrop of mistrust and unease following the prescription and eventual withdrawal of the drugs diethylstilbestrol and thalidomide for women attempting conception and for those currently pregnant (Strickler, 1992). Thus the transfer of control in the arena of reproduction from mother to clinician was seen as antithetical to feminist interests (Gena, 1985; Klein, 1989). At this time additional fears about the potential physical risks to women and their babies, as well as concerns about the potential for the exploitation of women, were also shared by feminist scholars, particularly the way these technologies could be seen as further reinforcing motherhood as women's 'biological destiny' (Stanworth 1987). This concern was significant given the way motherhood had historically been a justification for limiting women's opportunities in society. As such, the initial feminist response to new technological developments was one of apprehension, if not outright hostility (Strickler, 1992). Feminists saw reproductive technologies as increasing, not decreasing, women's subservience to their biological destiny of motherhood, further reinforcing the motherhood mandate and essentialising women as producers (Russo, 1976; Terry, 1989; Thompson, 2005). Rather than being seen as offering women greater control over their reproductive capacities and greater reproductive freedoms, it was feared that these new technologies would instead establish new forms of control over female reproduction (Gupta, 1991). During this period, feminist theory tended to be generally concerned with large-scale structural functionalist explanations of gender stratification, and ARTs were seen as socially and economically stratifying (Colen, 1995; Ginsburg and Rapp, 1995). However, despite these macrosociological concerns, towards the end of this first phase of feminist literature on ARTs, anthropological and sociological empirical research was beginning to be undertaken to explore the experiences of women who had used these technologies (Koch, 1990; Kirkman and Rosenthal, 1999). Whilst the women in some of these studies were still described as being ideologically duped into treatment which was inherently patriarchal and anti-women in nature, these studies revealed a diversity of experiences in women making use of reproductive technologies and, following debates

over the authenticity of the maternal instinct, (Sandelowski, 1991), the infertile woman's desire to have a child was deemed 'more important and more substantial than simply a patriarchal mandate to reproduce' (Thompson 2005:67). Therefore, after the initial galvanisation around ARTs, and coinciding with third wave feminism, the second phase of feminist response to ARTs (1992-2000) saw a shift away from moral certainty towards a tone of ambivalence where instead of women being seen as duped into treatment by pronatalist ideologies they were afforded greater agency and intentions by scholars on the subject (Thompson, 2005). During this time concerns about the stratification of reproduction by class was replaced with concerns about the inequity of access along ethnicity and sexuality lines (Rapp, 1999; Culley, Hudson and van Rooij, 2009).

Whilst some concerns about the medicalisation of reproduction and the essentialised notion of womanhood persist, current feminist debates no longer centre primarily on whether reproductive technology is intrinsically 'good' or 'bad'. Instead, more nuanced positions have been articulated, highlighting the deep ambivalence ARTs generate (Franklin, 2013). Furthermore there is greater recognition that 'although new reproductive technologies certainly threaten to reproduce existing power relations, they also introduce new possibilities for 'disruption and resistance' (Sawicki, 1991; Leve, 2013). Therefore although tempered by time, contemporary feminist scholarship on assisted reproduction arguably continues to reflect similar concerns to those first articulated by feminist writers in the 1980s and 1990s. Set against a new landscape of ovarian reserve testing, the routinised use of ICSI for male factor infertility and the normalisation of medicalised reproduction, contemporary concerns and preoccupations include those related to the continued stratification of reproduction on class and sexuality lines, fears about increasing medicalisation of 'healthy' women, the marketisation and commodification of what Leve (2013:277) calls 'reproductive bodies and bits', particularly in the context of cross border reproduction, and the increased pressure and expectation to engage with fertility technologies (Culley et al., 2011; Leve, 2013; Courduriès and Herbrand, 2014; Cattapan et al., 2014). Such concerns arguably reflect the contemporary political landscape which has seen a displacement of liberal feminism by neoliberal postfeminist ideals of individualism and responsibilisation using, and arguably re-appropriating, key liberal terms such as equality, free choice, autonomy and opportunity (Rottenberg, 2014) to promote the post-feminist sensibility of 'having it all' (Gill, 2007).

### 3.3 Psychobiography

#### 3.3.1 The modern lifecourse and expectations of motherhood

Lifecourse theory and concepts such as age norms, the timing of lives and lifecourse transitions have been utilized by many academic researchers when discussing topics such as reproductive timing (Daly, 2011), fertility intentions (McQuillan et al., 2015), delayed conception (Henwood, Shirani and nee Procter, 2011) parenthood and wellbeing (Umberson, Pudrovska and Reczek, 2010), as well as infertility and involuntary childlessness (Hadley and Hanley, 2011; Loftus and Andriot, 2012). Particularly relevant to the discussion of egg freezing in lifecourse theory is the concept of a normative lifecourse and lifecourse expectations.

Whilst it is argued by some that the modern lifecourse has become, and continues to be, increasingly differentiated and non-standardised (Neale and Flowerdew, 2003; Macmillan, 2005), Exley and Letherby (2001) have noted how a significant number of commonalities exist across the lifecourse of different individuals, indicating that the notion of a standardized lifecourse persists. Furthermore, whilst theories of individualisation have emphasized the erosion of traditional norms and the greater possibility of individual choice (Beck-Gernsheim and Beck, 1995), research has shown that individuals continue to frame their lives, and associated lifecourse transitions, as not solely the outcome of individual agency and specific life choices but as the result of assumed lifecourse expectations reflecting traditional norms of behaviour (Webb and Daniluk, 1999). This reflects what Zinn (2004) describes as the traditionalisation mode of biographic certainty, wherein individuals expect to reproduce actions or patterns that are seen as natural or self-evident. He suggests that in such a mode of biographic certainty, decisions about marriage or seeking employment are more often not about whether one should choose them, but more about 'fine-tuning when and under what circumstances' such events should be realized (2004:208). He further identifies how, as a result, the experiences of unexpected deviations from such events are experienced as catastrophes and a threat to one's ontological security. Despite growing numbers of individuals and couples 'delaying' childbearing, the transition to parenthood can be seen as one such life event which is anticipated by most individuals (Lampic et al., 2006; Daly, 2011; Henwood, Shirani and nee Procter, 2011; Loftus and Andriot, 2012).

The timing of the transition to parenthood is partly informed by age norms which suggest that transitional events such as leaving home or getting married are expected to take place within a certain age range (Neugarten, 1973; Hagestad and Neugarten, 1985; Settersten Jr, 2003). This concept of age norms give rise to the notion of social clocks which can be seen as proscriptions for or against engaging in behaviours and taking on certain roles at particular ages. As such, lifecourse transitions and events can be described and experienced by social actors as occurring either 'on time' or 'off time', be it 'early' or 'late'.

Research by Daly (2011) reported compelling evidence of social clocks in her work examining the reproductive intentions of women in the UK. Similar to the account from *Everywoman* (2013), Daly (2011) noted how her participants' feelings about being unmarried or non-mothers appeared to be mediated by the relational and reproductive behaviour of those around them. Whilst open for renegotiation and individualisation, Daly identified consensual perceptions about the ideal timing of lifecourse milestones such as marriage and parenthood. However, Daly noted crucially that when describing the 'right time' for motherhood, her participants did not draw on age norms by referring to a particular age or age bracket but instead framed the right time for motherhood as occurring when one 'felt ready' (2011:270). Therefore, as Daly suggests, whilst influential in the past, age norms have begun to disintegrate in contemporary society, which has meant that perceptions of the right time for parenthood have become untethered from specific ages or times in the lifecourse (Daly and Bewley, 2013). Instead, notions about the right time for parenthood have become related to the psychosocial feeling of 'being ready'; such a status is often linked to the attainment of certain lifecourse milestones. Daly and Bewley (2013) argue that these milestones are seen as ideal values or markers which need to be fulfilled or achieved before the onset of childbearing. These milestones which function as preconditions for parenthood, a topic which has been discussed above, may include the accumulation of specific psychological, corporeal, cultural and relational resources that help create the sense of 'readiness' for motherhood. However, the pursuit of such resources may span several decades of a woman's life and may therefore only be achieved after her fertility has begun to decline. Consequently, when it comes to planning for motherhood, for some women a clear asynchrony can be identified between the right biological time for motherhood, which might be in a woman's 20s, with the right psycho-social time, that might be in her third or even fourth decade of life (Sevón, 2005; Daly and Bewley,



2013; Perrier, 2013). Research examining women's accounts of childbearing have demonstrated how multiple facets of time such as biographical, generational, biological and psycho-social time, inform women's reproductive decision making and have highlighted the conflict between social and biological clocks which women struggle to reconcile (Sevón, 2005; Daly and Bewley, 2013; Perrier, 2013).

The pursuit of ideals such as marriage and motherhood continue to be important to many women. However, often the preconditions to these ideal states are increasingly difficult to attain in contemporary times for several reasons, including: the decline in the job for life model and growth in precarious careers; the need for a longer period of time to be spent in education to meet the needs of the knowledge economy; the growing gap between capital costs and incomes; the requirements of a dual earning household to build large deposits to enable home ownership; and the rise of unstable forms of unions (Berrington, Stone and Falkingham, 2009; Mills et al., 2011; Daly and Bewley, 2013b; Waldby, 2015b). As a result, authors such as Friese et al (2008) have noted how the course of life has become increasingly characterised by 'considerable shifts, primarily extensions and overlaps of various phases of life' (2008:66) resulting in a blurring of life stages. This blurring of life stages, and the difficulties achieving milestones associated with adulthood, has led authors such as Arnett (2000) to suggest that a new life stage between adolescence and adulthood has developed: one of 'emerging adulthood'. Furthermore, this delayed entry into adulthood, which can be seen as a response to changing social, cultural and economic realities, has potential repercussions for other life stages, including a delayed entry into parenthood.

The transition to parenthood remains for many an assumed lifecourse stage and continues to be a signifier of adulthood (Dykstra and Hagestad, 2007). As such, research has shown how the experience of unexpected life course events which prevent such a transition, such as relationship breakdown, unwanted delayed parenthood and infertility, can be experienced as a form of lifecourse disruption or perceived failed lifecourse transition (Exley and Letherby, 2001; Friese, Becker and Nachtigall, 2006; Henwood, Shirani and nee Procter, 2011; Loftus and Andriot, 2012; Earle and Letherby, 2007; Culley, Hudson and Lohan, 2013). This may be because, despite increasing numbers of women and couples delaying parenthood or choosing to remain childfree, motherhood in particular is still often perceived as the cornerstone of adult femininity and what it means to be a woman (Russo, 1976; Gillespie, 2003; Sevón, 2005).

Furthermore, hegemonic notions of femininity remain inextricably linked to biological motherhood and the achievement of motherhood status is still considered a crucial factor in the sense of self as being normal (Sandelowski, 1993). As a result, unwanted childlessness and infertility have been found to have particularly gendered implications for women who report experiencing their bodies and selves as failures and infertility as stigmatising; compromising or spoiling their self-identity (Greil, 1991; Letherby, 1999; Greil, Slauson- Blevins and McQuillan, 2010; Henwood, Shirani and nee Procter, 2011).

Since motherhood is still often seen as necessary to meet ideals of hegemonic femininity, women who refuse motherhood and choose to remain childfree are commonly represented as unfulfilled, deviant or deficient (Letherby, 1994; Letherby, 1999; Letherby and Williams, 1999; Gillespie, 2003). Furthermore, and unlike women with children, non-mothers more often have to account for their childfree status (Gillespie, 2000; Sevón, 2005) and have their decision to be childfree questioned and undermined by suggestions that they will eventually ‘change their mind’ and adhere to normative expectations of motherhood as they mature (Gillespie, 2000:228). This notion of non-mothers as immature has been discussed by authors such as Letherby, who notes how ‘women live their lives against a background of personal and cultural assumptions that all women are or want to be mothers and that for women motherhood is proof of adulthood’ (Letherby, 1994:525). As such non-motherhood has yet to have been embraced as a choice equal to motherhood, and the identity of individuals who are voluntarily childfree remain less socially accepted than those who are involuntarily childless for reasons such as infertility (Gillespie, 2000; Meyers, 2001).

As a result of a number of social and economic changes, the modern lifecourse has become increasingly diverse, and traditional life stages and transitions have become blurred as previously anchoring notions of age norms have become disrupted. Normative notions about the timing of motherhood have become increasingly untethered from specific ages or times in the lifecourse and instead notions about the right time for motherhood have become related to the psychosocial notion of ‘feeling ready’.

### 3.4 Summary

This chapter has provided a theoretical and conceptual orientation of a number of issues related to egg freezing. It has included a discussion of the shifting nature of the modern lifecourse and the social expectations that adults hold about how they expect their lives to unfold. It has also examined reproductive timing and has observed how different facets of time influence decisions around parenthood and the role of certain preconditions in creating a sense of readiness to parent. This chapter also identified the significance of social class and educational status on the timing of parenthood and provided a critical assessment of the term ‘delayed motherhood’, noting in particular how for many women there is an ‘illusion of choice’ when it comes to reproductive timing. This chapter has also provided a discussion of the feminist response to ARTs since their initial application and identified contemporary feminist concerns, including the increasing medicalisation of ‘healthy’ women, the marketisation and commodification of women’s bodies and increasing pressure and expectation to engage with fertility technologies due to what has been described as their ‘imperative character’ (Throsby, 2004; Britt, 2014).

Whilst the research examined above provides further useful context in which to situate this thesis, this overview has identified a number of limitations and gaps in this literature. Significantly, much of the academic literature examining reproductive timing, particularly future reproductive plans, has examined the accounts and intentions of predominantly white middle class populations, to the exclusion of other groups of men and women such as those from minority ethnic communities and other socioeconomic groups. The reason for this focus on middle class populations likely reflects interest from demographers as well as social scientists in examining groups who delay childbearing, which is most often middle class groups and those with higher levels of educational attainment. This lack of research means that it is difficult to be certain how transferrable research findings from middle class populations would be to other social groups. It is also unclear whether the timing of parenthood in non-privileged social groups is shaped by the same preconditions for parenthood identified in the literature examining middle class populations, or whether these preconditions are different or shaped by other, possibly competing, ideals. This lack of research examining non-middle class groups also means that it is difficult to discern the influence of parenting ideologies on the timing of parenthood amongst less privileged social groups.

A further significant gap in the literature is the absence of research examining the influence of a male partners' reproductive intentions toward the timing of parenthood in a couple unit. The absence of men in reproduction related research is well documented (Culley, Hudson and Lohan, 2013; Morison, 2013) and the research which does focus on men tends to focus on their accounts of fathering. As such the research examining men's intentions and attitudes towards the timing and planning of fatherhood is scant (Morison, 2013). This lack of research has been attributed to the difficulties experienced in engaging men in reproduction related research due to what is often seen as the inherent feminine focus of the reproductive domain. This failure to examine the influence of men's reproductive intentions on the timing of parenthood may also be in part due to the lack of research which has explored the negotiations which take place inside intimate relationships when it comes to planning the timing of parenthood. Instead, the timing of parenthood, and the decision making process surrounding the timing of parenthood, has often not been critically considered (Morison, 2013). Furthermore, an assumed consensus about the timing of parenthood has also meant that any conflicts or negotiations about this timing, or the decision to parent at all, have been overlooked (Greene and Biddlecom, 2000). This is significant given that research has shown how having the full commitment of their partners, and for parenthood to be a mutual desire, is very important for women before attempting pregnancy (Benzies et al., 2006; Tough et al., 2007; Proudfoot, Wellings and Glasier, 2009).

The following chapter of this thesis (the methodology) provides a discussion of the relationship between the theoretical underpinnings of this research, the research methods used, and the conceptual and theoretical framework through which this thesis is theorised.

## 4 Chapter Four: Methodology

### 4.1 Introduction

As discussed in chapter two, very few studies have qualitatively examined women's motivations for engaging with egg freezing technology, their experience of undergoing the procedure and the impact that having frozen eggs 'banked' has on women's relationship and reproductive decision making. Furthermore, while several research studies (Shaw and Giles, 2009; Campbell, 2011; Budds, Locke and Burr, 2013) have examined the way media outlets construct older mothers and older motherhood, very little is known about the ways in which these media outlets present or discuss social egg freezing and the users of this technology in a UK context, other than the small amount of research undertaken by Martin (2010) and Van de Weil (2014). The research undertaken for this study sought to address this lacuna in knowledge by examining both women's experience of undergoing egg freezing and the way in which this technology and its users, or potential users, were discussed and constructed in the British printed press. Chapter one presented the aims of this research, this chapter (chapter four) describes the methodology and design of the research study, provides a discussion and justification of the methods employed and describes the analytical processes undertaken in the generation of research findings. This chapter also provides a discussion of the relationships between the theoretical underpinnings of this research, the research methods used, and the conceptual and theoretical framework through which this thesis is theorised.

As discussed in chapter one, this research is underpinned by the theoretical and conceptual contributions from Derek Layder's work on social domains (Layder, 1993; 1997; 2006). Before providing a description of the study design and the individual research methods employed to gather data, I will detail how Layder's concepts of domains, in particular, has influenced the methodological approach taken to data collection in this study.

## 4.2 Theoretical influences on data collection

Central to Layder's theory of social reality is the principle that researchers cannot and should not seek to examine the social world in a way which gives consideration exclusively to either structural or subjective features of social reality (Layder, 2006). He notes how approaches to social analysis have traditionally been split into two broad 'camps': those concerned with interpretative analysis, such as symbolic interactionist, ethnomethodologist and phenomenologist researchers, and those concerned with institutional and macro analysis such as structuralist, functionalist or post structuralist researchers. Whilst advocating stepping beyond analytical dualism, which he describes as 'unhelpful' and 'misleading' (Layder 2006:2), Layder notes how the current state of social theorising is often 'conflationary', wherein 'social theories, perspectives or frameworks tend to collapse together what in fact should be regarded as different levels of social reality' (ibid:264). Like Giddens' structuration theory, which sought to bring together functionalist and interpretative traditions under a single theoretical framework, Layder offers a middle way theory. However, unlike Giddens, does not result in what Layder describes as an over-social view of individual agents (Layder, 2006). This is achieved through his theory of social domains.

By avoiding the downward conflation engaged in by structuralist and poststructuralist researchers, the upward conflation committed by phenomenologists and ethnomethodologists, and the central conflation Layder believes is inherent in the work of Giddens and Foucault, he offers a new way of understanding the social world as 'textured, multidimensional and stratified in nature' (Layder, 1997:247). This perspective he suggests offers researchers the best opportunity to investigate and understand agency-structure linkages.

Layder's theory of social reality therefore goes beyond analytical dualism and seeks to unpack reality into its component parts. He notes:

*'The concept of agency has to be decomposed into the constituent elements of psychobiographical inputs and the emergent dynamics of situated activity while structural or system elements are broken down into settings and contextual resources'*

*Layder (1997:247)*

By unpacking social reality in this way, Layder argues that more varied analytical strategies, theories and devices, and thus explanatory possibilities, are enabled, since the topic of examination can stretch beyond simply the 'doing and being' (ibid) of the social life.

Thus Layder's research map and theory of social domains (an adapted model of which is reproduced below) is predicated on the basis that agency and structure are different but inevitably connected and the relationships between them should not be 'conflated, dissolved or defined out of existence' (2006:268). They should instead be replaced with conceptual frameworks which accommodate their distinctive characteristics whilst also investigating the links between them.

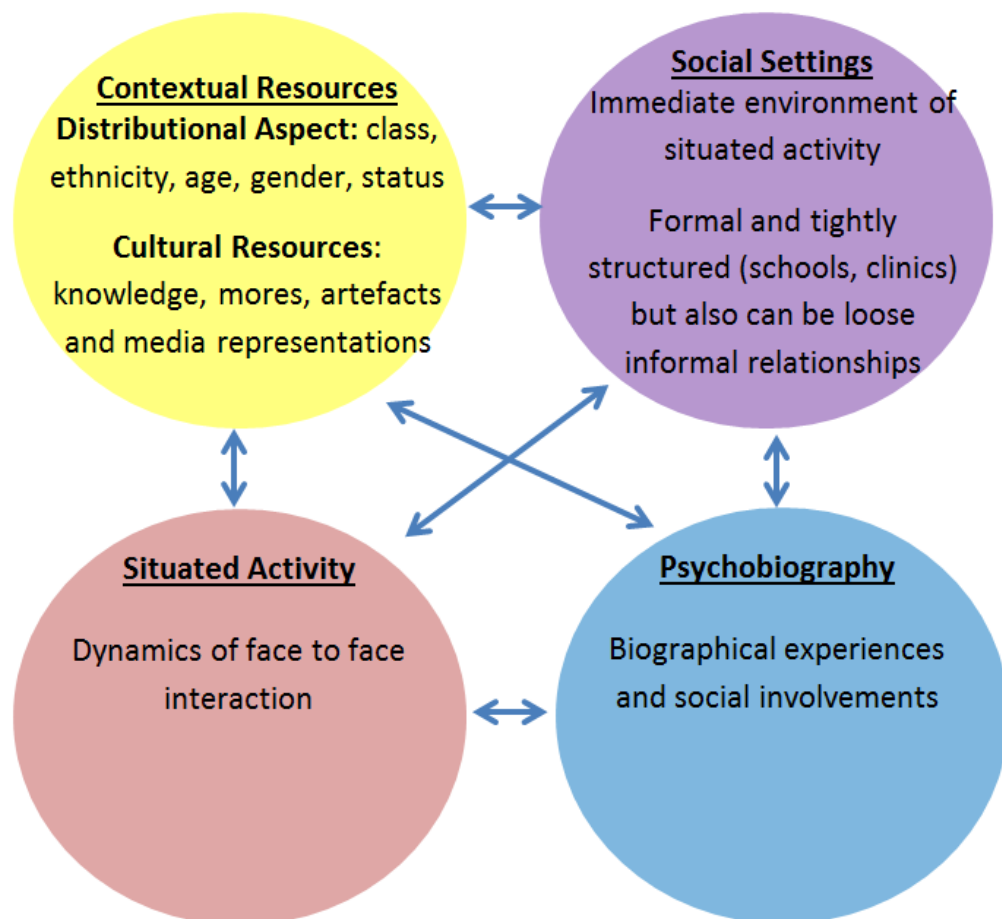


Figure 2: An adapted figure outlining Layder's Theory of Social Domains

The figure above provides a representation of the four interconnected but independent domains which reflect the variegated nature of social reality. For Layder, none of these domains have analytical primacy. The two lower domains, *situated activity* and *psychobiography* represent the more immediate personalised aspects of social reality,

and can be seen as the component units of agentic activity, whereas the higher domains *contextual resources* and *social settings* and are by comparison relatively remote and often structural in nature (Layder, 2006). Whilst a brief introduction to the domains was provided in chapter one, a more in depth discussion will now be provided.

#### 4.2.1 Psychobiography

Originally referred to as the 'self', the domain of psychobiography maps a person's experiences across the lifecourse (Layder, 1993). Whilst a person may share elements and experiences of their lives with others, their lifecourse trajectory and how they respond to social situations is unique. Residing in the subjective dimension, this domain refers primarily to the individual's relationship to their social environment and traces the impact of 'critical experiences' such as ill health or psychological trauma (Layder, 2006). It is the amalgam of beliefs, personality and attitudes held by the individual (Layder, 1993) and its examination also provides an insight into how social actors manage more mundane aspects of their everyday life, including how they interpret the actions of other social agents.

Central to this domain is the role of agency and individual subjectivity and its influence in directing and interpreting social life. Thus Layder acknowledges the agentic properties of social actors and their capacity for self-direction and suggests that individuals should be understood as 'emotionally unique beings, not simply rationally self-reflexive agents choosing the most appropriate way of maximising our satisfaction' (2006:275).

#### 4.2.2 Situated Activity

Together with the psychobiography, situated activity has as its main concern the way individuals respond to their social environment through social interaction (Layder, 2006). However, whereas psychobiography takes the self as the mediator of the social, situated activity is about the way two or more individuals engage in, create and respond to action. Sometimes referred to as the gateway between the psychobiography and the macrosociological domains of settings and contextual resources (Layder, 2006), this domain tracks the encounters between individuals, which can be evanescent, intermittent or regularised yet all create meaning (Layder, 2006). Such activity could therefore include the intermittent and short term interaction between consumer and



vendor when purchasing groceries as well as more sustained regular encounters such as those between employees and their line managers. Situated activity shifts focus away from the individual's response to stimuli towards a concern with the dynamics of interaction themselves. Layder notes however that, while situated activity often appears to be the location of meaning making, subjective attitudes and feelings play a significant role in how meaning is constructed and how an individual make sense of, or reacts to, such interaction (Layder, 2004). Layder also recognises the role of external macrosociological factors such as gender, class or ethnicity and their influence on the way situated activity is encountered. Therefore, the meanings generated from situated activities must be understood as the 'effects of individual psychological factors including emotion, desire, spirituality, personality as well as various kinds of structural or systemic elements' (2006:267).

#### 4.2.3 Social Settings

Settings are considered more remote from the individual and may exist in the more objective realm of the macrosociological. They refer to the immediate environment where situated activity takes place such as schools, hospitals and workplaces (Layder, 2006). All settings are underpinned by an elaborate social fabric of rules, understandings and expectations. Settings might include workplaces, or clinics and organisations with highly formalised rules and associated obligations and expectation. However, they may also be more informal and, whilst in these settings standards of behaviour may not be 'organisationally enforced' (ibid, 280), they can nonetheless be influenced by 'tradition, best practice, neighbourhood, class position, ethnicity, personality and experience' (ibid:281).

Whilst much qualitative investigation, particularly ethnographic research, focuses on the meanings which emerge from social interactions, Layder's theory of social domains highlights how this focus on events or happenings can direct 'attention towards the immediately observable features of settings; that is the behaviour that constitutes the events themselves and the accounts of participants' (ibid: 95). As a result in situations where the settings are less formalised the more likely it is that significant features of the settings will be missed, in particular the power relationships which influence the events but which are not always apparent from the events themselves. This highlights how important it is for researchers to take time and consciously reflect on the setting of

social interactions. Furthermore, this also demonstrates the effectiveness of Layder's theory of domains as a sensitising tool for the researcher.

Similar to the close linkages shared between the psychobiography and situated activity, the domain of social settings is also closely related to the domain of situated activity and has an influence on the way activity within this domain is organised (Layder, 2006). However, social settings also share many links with the domain of contextual resources. This means that it can become difficult to separate out the effects of the immediate setting from other more macrosociological factors such as those seen in the domain of contextual resources. Nevertheless, what is important to note here is how the setting itself and the situated activities of those within the settings act to perpetuate macrosociological forms. As Layder noted social settings are 'local aggregations of reproduced social relations, positions and practices' (2006:280).

#### 4.2.4 Contextual Resources

Whilst from the point of view of the individual, the domain of contextual resources is perhaps the most remote; it is in fact the most encompassing feature of the social world (Layder, 2006). Embracing both material and cultural dimensions this domain contains both the distributional and historical accumulation of cultural resources. The distributional aspect focuses on the ways in which material resources can be seen to be allocated in society often unequally between groups, based on macrosociological forms such as class, ethnicity or gender. Layder suggests that this distribution of resources often influences the construction of social settings; the effects of which are 'felt and experienced...in the mental lives of individuals' (2006:14). The other element of contextual resources refers to the accumulation of cultural resources such as 'knowledge, mores, artefacts, media representations, subcultural styles, fashion and popular culture' which, Layder argues, are the 'ultimate source of societal values' (ibid: 281). The domain of contextual resources therefore includes both material and cultural dimensions which are understood in a critical sense in the way that a social actor's access to these resources can influence the way the other domains are experienced. However, whilst this domain influences the subjective domains (psychobiography and situated activity) it does not determine all subjective experience. Furthermore, Layder notes how the distribution of resources provides the 'infrastructural foundation on

which the cultural or ideological elements rest' (ibid:282) but is also keen to note how this relationship too is not deterministic.

Thus, whilst domains have their own characteristics, they are significantly intertwined with one another. The domains of psychobiography and situated activity primarily embody subjective and intersubjective phenomena, but these are considerably influenced and constructed by the more objective domains. However, it is also the case that these more objective domains are perpetuated and 'brought to life' by the actions of individuals (2006:282). This theoretical orientation therefore rejects the view of individuals as 'isolated self-sufficient units who remain untouched by social processes', but also eschews the notion of people as 'automata, unthinkingly moved and moulded by social forces' (Layder, 1993:6). Therefore this approach to the examination and theorisation of the social world is significantly distinguishable from other approaches to social analysis which tend to be preoccupied with either interpretative or institutional analysis. By contrast, Layder's theory of social domains is committed to examining the layered, interwoven nature of social reality.

The strategy for social research laid out by Layder (1993) in his discussion of the research map, which forms the basis of his theory of social domains, seeks to act as a means through which researchers can be supported to go beyond the generation of new research findings or data and enable them to construct new, or develop existing theory around this data. Furthermore, he notes that whilst his theory should not be seen as overly prescriptive it can be useful for researchers 'who wish to undertake social research which combines the analysis of social activity with the institutional forms which provide their backdrop' (Layder,1993:200). Therefore, when devising this research, including the methodology for data collection, I drew on Layder's theory of domains as a particularly useful tool through which I could organise my data collection methods.

Many academic commentators on research methodology, such as (White, 2013), argue that data collection, and decisions about data collection methods, should be 'question-led', According to White this will not only mitigate against the early formation of what he calls 'mono-method' 2013:5) identities but ensure that the research methods used in sociological inquiry best fit the research question under examination. Drawing on Layder's concept of domains, it became clear that my research sought to examine both the more immediate personalised aspects of social reality (the psychobiography and

situated activity), as well as the more remote and impersonal (social settings and contextual resources). Whilst advocating a holistic approach to data gathering examining phenomena across all four domains, Layder has recognised the practical and methodological factors which may prevent the employment of a full range of methods. As such he suggests that it is possible for researchers to engage in ‘selective focusing’, whereby the researcher gives ‘primary emphasis’ to particular elements of the map (Layder, 1993:123). The particular aims of this research gave rise to a specific focus on the domains of the psychobiography, situated activity and contextual resources. The approach to empirical enquiry that Layder’s social theory advocates is to ‘open as many strategies and analytical cuts of the data’ as possible (Layder, 1993:109). Thus whilst not using a traditional mixed method research design (Clark and Creswell, 2011), this research makes use of three different methods and strategies to collect data with the intention to open as many ‘analytical cuts’ as possible. The three data collection strategies utilised were: a content and critical discourse analysis of media articles on the topic of egg freezing, semi structured interviews with users of egg freezing technology and the use of a short questionnaire to gather the participant’s demographic information. These data collection strategies were selected as they were the most suitable means to interrogate the particular domains of interest to this research as represented in the figure below. The media analysis was able to at least partially interrogate and examine the domain of contextual resources. The short demographic questionnaire also sought to collect data from the domain of contextual resources, in particular the distributional aspect of cultural resources including macrosociological forms such as class and ethnicity. The semi structured interviews examined activity across all four of the domains including the more subjective domains of the psychobiography and situated activity and the relationships between them.

|                            | Psychobiography | Situated Activity | Social Settings | Contextual Resources |
|----------------------------|-----------------|-------------------|-----------------|----------------------|
| Semi-Structured Interviews | ✓               | ✓                 | ✓               | ✓                    |
| Media Analysis             |                 |                   | ✓               | ✓                    |
| Demographic Questionnaire  |                 |                   |                 | ✓                    |

Table 5: Interrogation of domain by data collection strategy

### 4.3 Overarching study design

This study took a sequential approach to data collection and analysis which saw the data collection occur in two distinct phases. The first was a media analysis of British newspaper articles on the topic of egg freezing published between 2006 and November 2011. This phase of the research was undertaken between October 2011 and February 2012 and examined a total of 117 newspaper articles, which were quantitatively analysed using a content analytic approach (Berelson, 1952) and qualitatively examined (N=30) through the lens of critical discourse analysis (Fairclough, 1995). Prior to this data collection and analysis, a literature review was commenced (Baldwin et al., 2014). This literature review was updated throughout the study. The second phase of the research (carried out between October 2012 and May 2013) was a qualitative exploration, using in depth semi structured interviews with 31 women: 30 women who had frozen their eggs and one woman who was about to begin the process of doing so. Prior to the interview taking place these women were also asked to complete a short questionnaire which collected demographic information about the participants such as their current age, their level of education, employment and disability status<sup>15</sup>. This questionnaire (appendix two) also collected information from the participants about their age at the time of freezing their eggs and whether they were in a relationship or not at the time of undergoing the procedure<sup>16</sup>. The information collected using the questionnaire was used to set the accounts provided by the participants of their experience of egg freezing in appropriate context. These two data sets, the media analysis and the data collected from the female participants, were initially analysed independently and are reported on separately (see chapter five for the findings of the media analysis and chapters six, seven and eight for the interview and demographic questionnaire findings). Both sets of findings, including the demographic characteristics of the participants, are considered, analysed and discussed theoretically and conceptually in chapter nine.

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<sup>15</sup> The data collated from these questionnaires are presented in a table summary in appendix four.

<sup>16</sup> The data generated from these questionnaires, as well as further insight gained in the interviews, were published in the following journal article BALDWIN, K., CULLEY, L., HUDSON, N., MITCHELL, H. and LAVERY, S., 2015. Oocyte cryopreservation for social reasons: demographic profile and disposal intentions of UK users. *Reproductive biomedicine online*, **31**(2), pp. 239-245. KB was the lead author on this paper.

As it is often difficult to disentangle the data collection method from the findings in media analysis research (Cheek, 2004), the current chapter will not discuss in any further detail this phase of the study. Information about the media analysis phase of the research can instead be found in one self-contained chapter (Chapter five). Chapter five thus provides a justification for the inclusion of a media analysis, details the methods and sample used during data collection, and presents the findings of this phase of the research.

#### **4.4 Phase two - semi structured interviews**

Often described as a more formalised version of a conversation (Smith and Elger, 2012), semi structured interviews are perhaps one of the most commonly used methods in research examining topics such as childbearing and (in)fertility, due in part to the sensitivity such a method can afford when seeking to collect data of this kind. The use of interviews in the collection of research data on topics allied to egg freezing such as infertility and assisted reproduction is well established (Imeson and McMurray, 1996; Letherby and Williams, 1999; Throsby, 2004; Friese, Becker and Nachtigall, 2006; Culley et al., 2007; Hinton, Kurinczuk and Ziebland, 2010; Nordqvist and Smart, 2014). Therefore, as a method of data collection interviews are highly suitable for examining issues around planning for motherhood, (in)fertility, and intimate relationships which any discussion of the topic of egg freezing was likely to raise. The value of interviews to gather data on sensitive topics is also well documented in the literature (Kavanaugh and Ayres, 1998a; Corbin and Morse, 2003; Rakime Elmir, 2011), making their utilisation in this research well justified. Additional benefits of using semi structured interviews to collect data also include the way they enable researchers to flexibly explore participants' accounts of particular situations or experiences from what (Flick, 2009) calls 'the interior'. They afford researchers the opportunity to examine the values, attitudes and opinions held by participants on a variety of topics, thus clearly reflecting the preoccupation of the domain of the psychobiography. Furthermore, the flexibility of this method means that whilst researchers have a predetermined set of questions they expect to ask during an interview, new lines of inquiry and questioning can be pursued when relevant and appropriate, enabling the capture of additional data perhaps not originally considered relevant by the researcher (Byrne, 2004). This unstandardised approach to data collection also means that the researcher can ask for further information or clarification if needed during the interview (Yeo et al., 2014).

Furthermore through such ‘prompting and probing’ the researcher can also come to explore the participant’s experiences or feelings in a nuanced way, making it a highly suitable method for research of this kind.

#### 4.4.1 Devising the interview guide

The semi-structured interview guide used was devised following the completion of the first phase of the research: the literature review and media analysis. The process of reading and analysing over 100 newspaper articles on the topic of egg freezing served as a helpful primer and sensitised me to particular topics and issues which warranted further exploration in the interviews. Also helpful in the process of constructing the interview guide was the conceptual literature discussed in the previous chapter (chapter three) as well as the small number of academic articles containing empirical research and academic commentary on egg freezing. When writing the interview guide, as well as during the data collection process, I also read several non-academic books written by women who had undergone the process of social egg freezing (Lehmann-Haupt, 2009; Effsie, 2011; Richards, 2013). Finally, reading online blogs, forums and other media articles on egg freezing also contributed towards the development of the final interview guide. The interview guide (appendix three) followed a broadly chronological structure and explored five key topic areas: the participants’ motivations for egg freezing; the process of planning the procedure; support; the experience of egg freezing; life after egg freezing and thinking about the future, followed by a small number of closing questions. The interview script utilised an open ended and non-directive approach to interviewing (Byrne, 2004) with broad questions opening up new lines of inquiry followed up by additional probes to explore the participants’ accounts in more detail (Yeo et al., 2014). The questions and the interview guide were devised in order to ensure coverage of a breadth of key topics and issues whilst still affording the opportunity to examine particular topics in depth (Yeo et al., 2014). Whilst a clear set of topics were identified for exploration using the interview guide, an open ended and flexible approach to interviewing was employed, which allowed and encouraged the participants to discuss new issues relevant to themselves not necessarily included in the list of questions.

The interview guide was piloted with one interview (with the participant Livvy) and minor amendments were made prior to its use in subsequent data collection.

#### 4.4.2 Recruitment and sample

At the outset, the aim of this research was to interview UK based women who had either undergone egg freezing for non-medical reasons or who had considered doing so. Those who considered the procedure but who did not ultimately undergo egg freezing were included since at the time that data collection began (in 2012) social egg freezing was a relatively new phenomenon. The number of women who had frozen their eggs for non-medical reasons in the UK was unknown but assumed to be very small. As such I was not confident that I would be able to recruit an adequate sample of women if the inclusion criteria were too narrow.

To take part in the research women originally had to meet one of the following criteria:

Potential participants had to

- Have been a UK resident at the time of freezing eggs for social reasons
- Currently be a UK resident and considering freezing their eggs for social reasons
- Have been a UK resident who had considered freezing their eggs for social reasons but had decided against pursuing the procedure

Given the anticipated difficulty of recruiting participants, a range of strategies were employed, including recruiting through online forums, utilising social media and by attending fertility and egg freezing related events and seminars, as well as participant referrals (see table six for a list of the approaches to recruitment).

| Online fora  | Additional online sources   | Other  |
|--|---|--|
| Fertility Friends<br>Fertility Zone<br>Mumsnet<br>Netmums<br>Eggsurance<br>Baby and Bump<br>Fertility Community<br>Care fertility<br>Midland Fertility<br>Services | Facebook<br>Twitter<br>Research website<br>Newsletter to DMU<br>Staff | Fertility clinic in London<br>Fertility clinic in the Midlands<br>Fliers handed out at the<br>Fertility show<br>Fliers inserted into egg<br>freezing information packs-at<br>third fertility clinic<br>Participant referrals |

Table 6: Recruitment strategies employed



Recruitment commenced in October 2012. However, despite the range of recruitment strategies, relatively few UK resident women who met the original criteria responded. As a result, the decision was made to extend the criteria to include women who lived outside the UK. This widening of the geographical recruitment criterion led to a further eight participants getting in touch about the research and subsequently all were recruited to the study. These non-UK participants were from the USA (n=7) and Norway (n=1). The final sample comprised 31 women; 30 who had attempted or completed the process of freezing their eggs and one woman who was just about to begin her first cycle of egg freezing. No participants who had thought about freezing their eggs but who ultimately chose to not undergo the procedure volunteered for the study. The final sample of participants were recruited from online fora (n=20), from two British fertility clinics (n=7) and through participant referrals (n=4).

For each method of recruitment, I provided some brief and basic information about the research, I detailed who I sought to interview, and emphasised the fact that the study had been subject to ethical review and that the findings would remain anonymous. I then asked potential participants to contact me via email if they were interested in taking part in the research. Upon receipt of their emails, I thanked the participants for their interest in the research and provided more information about the study and myself as a researcher by sending them the participant information sheet and consent form. I asked the participants to read the participant information sheet and sign the consent form if they were happy with the information provided and wanted to take part in the research. At this juncture, I also offered to answer any additional questions they may have had. After agreeing to take part in the research (and upon the receipt of a signed consent form) a date and time and, if we were meeting face to face, a location, for the interview was agreed upon. At this stage I also asked the participants to complete a short questionnaire which requested data on the participant's age at the time of freezing their eggs, their current age, highest educational qualification and other relevant demographic details such as their ethnic group, marital status, disability status and whether they held any religious beliefs (See Appendix two). The data collected through this demographic questionnaire is presented in chapter six alongside a discussion of the profile of the research participants and a description of the characteristics of the egg freezing cycles they underwent. A table providing a summary of the research participants is included as Appendix four. Pseudonyms have been used throughout.

## 4.5 Conducting the interviews

### 4.5.1 Interview process

The research interviews were conducted face to face (n=16), via telephone (n=6), or through video enabled connections such as Skype and Facetime (n=9). This was determined by location and/or participant preference. For the 16 face to face interviews, participants were given a choice of location for the interview. Six participants chose to be interviewed in their homes, eight interviews were undertaken in cafes and two in local libraries. The interviews lasted on average around an hour and 40 minutes, ranging from 40 minutes to almost three hours in duration. The face to face interviews lasted slightly longer than online interviews as this form of interaction more easily facilitated the formative 'chit chat' element of the research encounter. All interviews were audio recorded using two devices for use in assisting transcription. Each interview began with the same opening question, asking the participants how they had come to learn of egg freezing and what they had wanted to achieve by undergoing the procedure. This led most of the participants to open with an extended discussion, lasting in most cases several minutes, about what led them to freeze their eggs. Following this initial exploration, and with a brief overview of the participant's thoughts and experiences provided, more specific questions were then asked with opportunities for participants to raise and explore issues of their choosing. The interview structure was therefore guided by me, but remained responsive to the research participants' answers, leaving open the opportunity to talk about different topics or certain topics in more depth (Greenfield, Midanik and Rogers, 2000).

It is recognised throughout this thesis the knowledge generated was constructed through a collaboration between myself as the researcher and the research participants (Holstein and Gubrium, 2011). Thus the interview data presented in this thesis is conceived as the product of 'interactional accomplishments' between myself and the interviewees and not simply the result of an exchange of information on 'neutral communicative grounds' (Holstein and Gubrium, 2011). This awareness and acceptance of research as a mutually constituted endeavour is reflective of the orientation of this study which has sought to examine and understand women's realities by exploring issues such as motherhood and

intimate relationships alongside broader feminist concerns of reproductive freedom and autonomy and women's role in the labour market.

#### 4.5.2 Researcher positionality and reciprocity in the interview process

Researcher positionality signifies the 'perspectives shaped by the researcher's unique mix of race, class, gender, nationality, sexuality and other identities' (Mullings, 1999). An awareness of researcher positionality is integral to understanding how power is enacted through the research process and research reflexivity requires an 'active acknowledgement' by the researcher that their presence in the research will have an impact upon the knowledge created (Horsburgh, 2003). As detailed above, I began this project in 2011 whilst in the early years of my 20s; I was childfree, unmarried and held limited life experience when it came to topics such as family formation and reproductive decision making. As the research project progressed over the intervening years, my own perspective, as well as the salience of the research, has also matured. During data collection I was aware of my status both an insider and an outsider to the research participants (Merriam et al., 2001; Chavez, 2008; Greene, 2014). An insider as a heterosexual woman with knowledge of the technology under discussion, but also an outsider who most often did not share the same social location of the interview participants due to sometimes significant differences in our ages, relationship status and socioeconomic positions. When undertaking the interviews with women who were often coming to the end of their fertility, I occupied an outsider position to some of the concerns and pressures discussed by the participants. However, there was often the sense that perhaps I had 'all of this to come' as I approached a time when making decisions about motherhood was something I would likely need to do.

As a doctoral researcher interviewing women often much more socially and economically powerful than myself, on many occasions I felt that the greater power and authority in the interactions lay with the research participants. Thus the potentially exploitative hierarchy between myself and the participants was less a concern in this research compared to other, non-academic, research which I had previously undertaken. Instead, many of the interviews proceeded in a seemingly equitable manner from which there was the potential for both parties to benefit. An issue which was significant within the interviews however was the issue of reciprocity.

To further attempt to reduce any potential inequalities of power in the interaction and to promote rapport, where appropriate, and particularly where the participants asked, during the interview interaction I disclosed details of my own life and experiences as well as on occasion my own marital and motherhood status. Researchers of motherhood have previously noted how disclosure of having similar mothering experiences to the participants can serve as a useful means to break down researcher-participant barriers (Letherby, 2002c; Ellis-Sloan, 2012). Frost and Holt (2014) have also suggested how when exploring topics allied to motherhood and reproduction a researchers 'maternal status' can significantly shape the research process. Whilst this research was examining reproductive timing and focused on the possibilities of motherhood, only one of the 31 participants had children at the time of the interview. Therefore, whilst my own maternal status did not obviously conflict with the majority of the participants, topics such as the experience of being parented, child desire and the timing of motherhood formed significant parts of the interview discussion and it was not uncommon for participants to ask about my experience or perceptions of such topics. Following the first encounter where a participant seemed eager to hear about my experiences and viewpoints before sharing her own, I decided that whilst I was happy and felt it important that I entered into a reciprocal relationship (Corbin and Morse, 2003) with the participants where I shared information about myself, such as my marital status and the fact I did not have children, I did not share with participants my generally negative perception of egg freezing technology as I did not want to cause upset or offence to my participants or put the research interaction in jeopardy.

## **4.6 Transcription and analysis**

### **4.6.1 Transcription**

Following the completion of the first four interviews, the audio recordings were listened to and transcribed to see whether the interview guide required any further refinement and to reflect on my manner as an interviewer. I then transcribed 21 of the audio recordings using 'express-scribe' software and Microsoft Word. Funding was then received to have 10 interviews transcribed verbatim by a professional transcriber. These ten transcripts were checked for accuracy against the original recordings and appropriate corrections and changes were made to the Microsoft Word text where necessary.

### 4.6.2 Analytical approach

The interview data were subjected to thematic analysis as outlined by Braun and Clark (2006). This process consists of six phases: data familiarisation, generation of initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report. The analysis process began shortly after the interviews took place and often before the interviews were transcribed. During this process of immersion, I became very familiar with the data from listening to the audio recordings and noting early observations. The transcription process also served as a further opportunity to become familiar with the data. Once transcribed the interview data were read multiple times and written notes were taken identifying potentially relevant patterns and meanings. The interview transcripts were then entered into NVivo 10, which was used to support the analysis process.

### 4.6.3 Coding

The process of coding began with a mix of open coding and involved the use and generation of in vivo concepts and codes. The codes developed reflected the language and terms found in the transcripts. This process also made use of emergent concepts which, whilst grounded in the data, were developed by myself. Later, additional a priori concepts, which were informed by the media analysis phase of the research and other literature on the topic (Spencer, Ritchie and O'Connor, 2003), were also used to aid the coding process. Whilst undertaking this preliminary analysis, I actively sought for the codes to remain 'close to the data' (Spencer, Ritchie and O'Connor, 2003), whereas the interpretative codes which were developed later on in this process were more abstract. This coding framework was developed by gradually by reading and re-reading the interview transcripts. Once several transcripts were coded, using Nvivo a list of the codes used were generated and printed. The inductive approach to analysis taken thus far meant that 212, mainly descriptive, codes had been created. All parts of the transcripts received a code and it was common for segments of the data to be coded multiple times under different codes. The 212 codes devised, and their contents, were reviewed and several codes were amalgamated and some codes were further expanded. Once a set of more refined codes was identified a further four transcripts were coded to pilot the new framework. Following this processes several more codes were added or further refined and a final coding framework was devised (Spencer, Ritchie and O'Connor, 2003).

#### 4.6.4 Searching for themes

Following an intense coding process, I began the process of drawing out key themes. This meant moving away from viewing the data as a collection of numerous codes to looking more broadly at the level of themes and how these codes could be organised thematically. During this process the themes were again printed off and were copied on to a large A3 piece of paper grouped under specific thematic headings. These headings were then reviewed and some themes became sub themes and some standalone features of the data became themes in their own right. The major themes which were derived from this process were: reasons for social egg freezing; timing motherhood; emotional and social support; risk; ambivalence about egg freezing; searching for a partner; and lifecourse expectations. Appendix five contains some examples from the data analysis to show how these themes were identified.

These themes, as well as others, were then reviewed to ensure their salience and a short paragraph was written about each theme and its contents. From this, the final themes were identified and these themes constitute the structure of chapters six, seven and eight where the findings of the interviews are presented.

#### 4.7 Research ethics

Prior to data collection ethical approval was obtained from De Montfort University Human Research Ethics Committee (REF 827) ensuring basic ethical guidelines and practices were proposed (appendix six). These included ensuring anonymity of the participants through the use of pseudonyms, as well as ensuring data security, confidentiality and informed consent. All participants were provided with information about the research through participant information sheets (appendix seven), a detailed consent form (appendix eight) and were allowed and encouraged to ask questions about the research at any time.

However, like much research examining sensitive issues related to (in)fertility and childbearing decision making, further additional considerations and dilemmas were identified as relevant to this research, in particular the risk of emotional distress which might be caused by discussing such deeply personal topics (Kavanaugh and Ayres, 1998b; Corbin and Morse, 2003b; Rakime Elmir, 2011). Whilst it has been suggested that any research topic has the potential to be sensitive (Schmied et al., 2011), some

topics more than others are likely to elicit an emotional response. Research examining issues such as bereavement, (in)fertility, relationship breakdown, abortion, miscarriage and terminal or chronic illness are perhaps particularly sensitive and many of these topics formed core parts of the interview discussion. Drawing on the literature and advice on sensitive interviewing (Kavanaugh and Ayres, 1998a; Dickson-Swift et al., 2007) actions were taken to help minimise and manage, such distress in the interests of participants. These included using sensitive language throughout the interview, letting the participant set the pace and tone of the interview and trying to ensure that the participant felt comfortable enough to not address certain topics or questions which they felt would cause them too much distress. Whilst a small number of the participants did become emotional during the interviews, these situations were manageable for both myself as a researcher and the participant usually just required some kind words and support, a change of subject, or a break with a cup of tea before feeling ready to continue with the interview. In the instances where the interviewee became upset during an online or telephone interview I sought to project an equal amount of sensitivity, however my lack of physical presence meant the means by which I was able to express this sensitivity and kindness was somewhat limited. However, in these cases I ensured the participant was aware of their right to pause, withdraw or reschedule the interview should they wish. However, it is worth noting that one of the benefits of online interviews, as well as those undertaken on the telephone, is the way this approach to interviewing can afford the participants the opportunity to disclose intimate and closely held experiences often within the comfort of their own home with some emotional, but also physical, distance from the researcher (Opdenakker, 2006; King and Horrocks, 2010; Schmied et al., 2011).

Whilst a small number of the participants did become upset during the data collection process, the use of semi structured interviews offered the participant an opportunity, not normally available to them; the chance to talk relatively uninterrupted about a topic or subject matter which for many was of great importance (Colbourne and Sque, 2005). In spite of the strong emotions the interviews produced, all the participants wanted to continue with the interview and several reflected that they were pleased to have the opportunity to talk about the issue with a third party. On a small number of occasions, the interviewees asked about other participants included in the research and whether their own accounts reflected other women's experiences. In these instances, I most often told the participants that their accounts reflected that of the other women I had

interviewed. This provided some women with a degree of validation that they were not alone in the problems and experiences they described. Several participants also remarked that the opportunity to talk to a third party about their experience was helpful, particularly as they felt it was something their friends or family may be 'sick of talking about'. For other participants, as Schmied et al (2011) have previously noted, the experience appeared to be cathartic and on occasion helped them begin to start thinking about the next steps they may take with regards to motherhood.

## 4.8 Research rigour

The use of concepts such as validity and reliability in the social sciences have been, to a degree, usefully assimilated as tools for evaluating or appraising quantitative research. However the extent to which these concepts are of use in qualitative research, due to the way they inhere a realist ontological position, has been the topic of much debate (Golafshani, 2003). It has been suggested that whilst these concepts may not be effective in the evaluation of qualitative research, the modification of these terms to fit a qualitative setting is possible (Lincoln and Guba, 1985). Alternative criteria proposed by Lincoln and Guba (1985) and Fossey et al (2002) assist in helping assess the 'trustworthiness' of this research. These concepts include: credibility; transferability; dependability (Lincoln and Guba, 1985) and the permeability of the researcher's intentions (Fossey et al., 2002). The decision to include Fossey's criteria for evaluating the interpretative rigour of qualitative research was made due to how this research topic and the data collected was particularly relevant to myself as a young, unmarried, childfree researcher, and how this subject position had the potential to influence the research process and analysis.

### 4.8.1 Credibility

When trying to ensure the credibility of a piece of research the researcher should to seek to demonstrate how a 'true picture of the phenomenon under scrutiny' has been presented (Shenton, 2004). Lincoln and Guba have stated that ensuring credibility is one of the most crucial factors in establishing the trustworthiness of a study. Within this study credibility was established in several ways, such as through the adoption of well-established and appropriate research methods. The use of interviews enabled the participants to include perspectives of their choosing, even if not previously considered



by the researcher. As such the interviews could be viewed as credible accounts co-constructed at the point of interview. Whilst the relationship between the interviewer and participant may have been in some cases fleeting, the clear motivation and interest in being involved in the study exhibited by many of the participants suggests that the data collected is likely to have been 'truthful' further contributing to the credibility of the research. Other factors which further demonstrate research credibility is the fact that it was overseen by senior academics and that sections of the research have been published and were thus subject to peer review (Baldwin et al., 2014; Baldwin et al., 2015). Finally, this thesis as a whole provides a detailed description of the research processes, which help to convey that the phenomena under study were examined appropriately and thus the findings are likely to 'ring true' (Shenton, 2004:69) and reflect the findings of other explorations of this topic (Lehmann-Haupt, (2009), Effsie (2011), and Richards (2012).

#### 4.8.2 Transferability

Quantitative research projects are often concerned with demonstrating that research results can be applied to a wider population by the extrapolation or generalisation of research findings. Whilst this concern with external validity is not shared by most qualitative researchers due to the small sample sizes these research projects often utilise (Bryman and Hardy, 2004), Denscombe (2010) has suggested that whilst individual accounts may be unique they should still likely reflect the experiences and accounts of others or share similar elements. Lincoln and Guba suggest that the role of the researcher is to ensure that sufficient contextual information about the research is provided so to allow a second party to determine its capacity for transferability. This contextual information includes information about the number of participants, the inclusion and exclusion criteria, the data collection methods, the time period over which the data was collected as well as the approximate location from which participants were drawn (Shenton, 2004). With this information, which this thesis provides, as well as many verbatim examples of the participants' accounts, it is possible to suggest that the findings of this research might be transferrable or theoretically generalizable (Sim, 1998; Barbour, 2005) to a similar sample or population of participants in other large cities in the UK and possibly other states on the east coast of America.

### 4.8.3 Dependability

The role of dependability in Lincoln and Guba's criteria addresses reliability concerns in the research process. However, whereas in positivistic research this concern for reliability is often closely related to future investigators being able to replicate the same research *results*, dependability is about ensuring a sufficient *auditability* (Noble and Smith, 2015), thereby 'enabling a future researcher to repeat the work, if not necessarily to gain the same results' (Shenton, 2004:71). A sufficient audit trail should include information about research design and implementation, the inclusion of relevant research documentation, such as that in appendices two-eight alongside and a reflective appraisal of the strengths and limitations of the project which is provided later in this chapter. Together, this can provide a degree of 'accountability' of the research findings and therefore infer its dependability (Lincoln and Guba, 1985).

### 4.8.4 The permeability of the researchers' intentions

The criterion of permeability for assessing the interpretive rigour of qualitative research was suggested by Fossey et al (2002) and is concerned with how researchers' own attitudes and preconceptions may or may not have had an effect on the research project. This doctoral research was funded by a university bursary and has no institutional or company links to commercial or non-commercial organisations providing egg freezing. As such the findings presented here are independently generated and can be linked back to the data collected. However, in qualitative research, particularly research examining deeply personal and also fundamentally political issues such as motherhood and reproductive decisions, the relevance of researcher positioning is significant (Frost and Holt, 2013). It is important to recognise how my own maternal status, as well as my own ambivalence towards motherhood and self-identity as a feminist may have influenced the research process.

The topic of this research, whilst not on outset but certainly as I aged with the research, has become very meaningful to me as a young child-free woman who is perhaps the target market of egg freezing technologies, given my commitment to pursuing an academic career. As such, I was aware of my potential bias (Hammersley and Gomm, 1997) as this research progressed. However, despite the perhaps inevitable transmission of assumptions, values and interests across the research project (Tufford and Newman,

2012) I believe that my own concerns about egg freezing and the way it is now ‘sold’ as a way to help women develop their careers prior to motherhood (Sandberg, 2013; Inhorn, 2013) was to an extent ‘bracketed out’ (Creswell and Miller, 2000; Starks and Trinidad, 2007). This was because the participants’ accounts focused strongly on their desire to pursue the technology for reasons related to their lack of a partner. However, as the interviews progressed, and particularly as I grew to develop a more ambivalent attitude towards motherhood for myself, when some of the participants asked if I had children or wanted children of my own, disclosure of ambivalence on occasion led to greater disclosure from the participants, particularly Olivia and Katie. As such I cannot claim to have adopted a neutral position throughout this research but nevertheless endeavoured to faithfully reflect the participants’ accounts in my analysis and interpretation as evidenced by the verbatim quotes presented throughout chapters six, seven and eight.

## 4.9 Limitations and strengths of the study

### 4.9.1 Limitations

The limitations of this study include the size of the sample as well as the self-selection of the participants. Despite utilising many different strategies in the recruitment of participants, the final sample constituted participants drawn mainly from online fora (n=20) as well as from two fertility clinics (n=7) and from participant referrals (n=4). The participant profile, which is explored in detail in chapter six, reflects a high degree of homogeneity and is made up predominantly of white, middle class women. However, this may not be a reflection of insufficient sampling but instead reflective of the very specific demographic profile of women who make use of egg freezing technology, as reflected in other data sets (Gold et al., 2006, Knoppman et al., 2008; Tsafir., 2012).

Due to several participants being recruited internationally (n=8) interview data were unable to be collected through a traditional face to face interview, therefore these eight interviews were undertaken either on the telephone or via Skype and Facetime<sup>17</sup>. Whilst the use of alternative means of interviewing such as telephone interviews and Skype interviews are well established in quantitative research (Barriball et al., 1996; Carr and Worth, 2001; King and Horrocks, 2010), concerns about their use in qualitative

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<sup>17</sup> Nine interviews in total were undertaken via Skype, Facetime and the on the telephone, this included eight international interviews and one with a participant who had recently had a baby.

research, such as the absence of visual cues, the loss of contextual and nonverbal data and barriers to effective prompting and probing of interviewees, have been raised (Chen and Hinton, 1999; Hay-Gibson, 2010; Deakin and Wakefield, 2013). However their deployment for accessing geographically dispersed respondents (Sedgwick and Spiers, 2009) and their subsequent cost effectiveness (Aquilino, 1991) has also been recognised. Given the geographic spread of the participants as well as the fact that several of the women were pregnant or had a new-born baby at the time of the interview, the use of online and telephone interactions were a very useful way to collect research data. However, these online and telephone interview interactions did on occasion differ from the face to face interviews in some respects and presented some challenges.

As previously mentioned it was not uncommon for participants to become distressed during the interviews, when this interaction was taking place face-to-face I was able to use my physical presence to offer the participants support however this was inhibited online. As a result when interviewing online or on the telephone I had to rely on my tone and pace of voice to convey my sensitivity. Furthermore, whilst most of the interviews flowed well, the lack of verbal and visual cues were noticeable in some of the online interviews. During the face to face interviews, when the participant was speaking I often would naturally nod or use other positive utterances to convey my interest in their account however this use of positive utterances was not as well facilitated online. This was because online these positive utterances would sometimes be perceived as a new question thus disrupting the participant's narrative flow; however without these cues I could appear to the participant to be not listening or worse uninterested in their account. To manage this I told the participants at the beginning of the call I would not be making such utterances but would instead perhaps 'nod a lot' thereby confirming my presence and interest. However I found an unanticipated benefit from this issue when it came to turn-taking during the interview; as I was keen not to 'interrupt' the participant whilst they were speaking I allowed them more time to convey their accounts before asking more detailed follow up questions.

The question of 'how many qualitative interviews is enough?' has been addressed by numerous authors (Baker and Edwards, 2012) yet the minimum number of participants required for a qualitative study remains disputed (Bryman, 2012). Warren (2002) suggests that the minimum number of interviews for a primarily qualitative study is

between 20-30 and Matson (2010), who examined doctoral thesis abstracts relating to interview-based qualitative studies in the UK, found that the average number of interviews undertaken to be around 31. The notion of collecting data until the point of 'data saturation' is achieved has been disputed by several authors (Morse, 1995; Dey, 1999; Mason, 2010). As Strauss and Corbin (1998) have noted, the longer researchers spend examining their data the more likely it is for new areas or topics to emerge for exploration. Thus they suggest that data saturation should be concerned less with reaching a point where no new data is identified and instead with reaching a stage where the data collected does not enhance or add anything to the overall 'story' or framework. Similar to this research they note how often the problem when analysing research and presenting conclusions is not the lack of data but an excess of it. The homogeneity of my sample (Richie et al, 2013) as well as the fairly narrow research focus leads me to be confident that the volume of the data collected was sufficient to help address the research question and present a faithful account of the participant experiences.

This study has examined and collected data across all four of Layder's domains. However, using 'selective focusing', the analysis has focused primarily on the domains of psychobiography, contextual resources and, to a lesser extent, situated activity. Thus whilst the domain of social settings is recognised in this research, it has not been examined or analysed in depth; this is in part due to the aims of this research and the methods employed. Had this study taken as its focus the fertility clinic itself, as well as clinic staff and healthcare professionals, as the site of meaning making and utilised an ethnographic approach to data collection similar to studies such as those from Thompson (2005) and Franklin and Roberts (2006), then the focus on social settings would have been greater. However the aims of this research (similar to Throsby, 2004) were to examine the experience of egg freezing from the perspective of the user of this technology, as well as paying attention to the more macrosociological factors that contextualised women's decision making. Whilst data collected from the perspectives of the providers of egg freezing may have provided an additional lens through which to view the phenomena, engagement with healthcare professionals was not essential to meet the specific aims of this research. Nevertheless, future projects examining egg freezing may benefit from including the providers of the technology in the research process.

Finally, when devising the aims of this study it was intended that the media analysis, which was undertaken prior to the interviews, would act not only as a primer for the development of the interview guide but would also provide some context of the discourses around egg freezing which the participants were likely to have been exposed to when making their decision to undergo the procedure. However, the British media analysis was unable to provide similar contextual information for the US based participants, and this had to be considered when analysing their accounts.

The decision to include a media analysis is provided in more detail in the following chapter; however, as noted above, this media analysis only included newspaper articles and did not include other forms of media such as television, radio or social media such as Twitter, Instagram and Facebook which have become much more prominent since this study commenced. However, whilst new forms of social media appear to be playing an increasing role in the dissemination of information about egg freezing during the period in which my participants froze their eggs (2005-2012), these media forms were much less routinely used. Thus their exclusion from the study, I would argue, is warranted.

#### 4.9.2 Strengths

The participants recruited to this research, whilst quite homogenous in nature, nevertheless demonstrated a diversity of experiences and timing of undergoing the procedure; whilst some of the women had only just completed the process of freezing their eggs, others had undergone the procedure as much as 5-7 years earlier. As a result, the participants were able to talk in detail about different aspects of egg freezing and its impact on their reproductive lives. Furthermore, several of the participants were able to talk about their experience of using their eggs to conceive which currently no other study to date has provided.

Whilst the inclusion of the US based participants was a later addition to the research sample, their presence was useful to highlight how the political economy of the US, which increasingly shares similarities with the UK, structured participants' perceptions about the timing of motherhood. Furthermore, the way the American participants described issues as being particularly acute, such as difficulties in finding a partner in a large city, served to sensitise me to the way in which the UK participants described similar issues.

The majority of the participants underwent the process of freezing their eggs in the UK. However, the inclusion of the eight international participants as well as a further three women who went abroad to freeze their eggs means that this project was able to collect data about women's experiences of travelling for the procedure, and their motivations for doing so, as well as data on the experience of freezing eggs in an American context. Whilst it has not been possible to include all this data in this thesis, future analyses will offer additional opportunities to explore in detail any significant differences between the British and American participant accounts.

When beginning recruitment, the decision was made to keep the criteria for participation quite open to allow women who had considered egg freezing, but not ultimately pursued the procedure, to take part. However, the final sample of participants were made up of women who had completed, or were about to complete, the process of freezing their eggs. Given that at the time of recruitment it seemed likely that very few women had undergone the procedure, the final sample of 31 participants reflects the strong commitment towards, and energy invested in, the recruitment process.

Whilst the media analysis undertaken was focused on British news publishers and thus did not include, and therefore cannot provide data on, the media context surrounding egg freezing in the US, the fact the analysis examined news articles written before the ARSM removed the experimental label attached to the procedure means that this data could be used in future research to compare the presentation and discussion of the technology before and after this decision was made in a UK context.

#### 4.10 Summary

This chapter has provided an account of the research process including the underpinning theoretical and philosophical influences, the rationale for choice of methodology and research design, and methods of data collection and details of the data analysis for phase two of the study. The process and analysis of phase one is discussed in the following chapter. The next chapter explores in detail the first phase of the research, a media analysis of egg freezing, and contains information about the methodological approach and findings from the first phase of this study.

## **5 Chapter five: Media analysis of egg freezing in the UK press (2006-2011)**

### **5.1. Introduction**

This chapter presents the first phase of this research in its entirety. It provides a practical as well as theoretical rationale for the inclusion of a media analysis in this research project, offers a brief critical review of the existing literature in this area and presents the media sample drawn and the methods of media analysis utilised, as well as the findings generated.

### **5.2. Media and Society**

While contemporary discussion about the role of the media in society has gone beyond the initial and overly simplistic ‘transmission’ models of the first half of the 20<sup>th</sup> century (Macnamara, 2005), media analysis as a tool for enabling the examination of certain social phenomena remains a widely and increasingly well respected approach to social enquiry and plays a key role in fields such as public health, sociology, and business (Neuendorf, 2002; Hilton et al., 2010; Hilton, Patterson and Teyhan, 2012; Purcell, Hilton and McDaid, 2014). The proliferation of the mass media in the last three decades has opened up new avenues for media research beyond traditional television broadcasts and printed press such as newspapers. This has included newer forms of media and technology hosted by the world wide web, including amateur film and video productions such as v-logging (video blogs), and new platforms for information and image sharing through social media. The role these new forms of media play in the flow of health information are likely to be highly diffuse and are now being examined in some depth (Chou et al., 2009; Hawn, 2009; Korda and Itani, 2013; Bottorff et al., 2014; Fergie, Hilton and Hunt, 2015). However whilst new areas of media are now emerging, research continues to show the important role the mass media, including newspaper publications, play in the dissemination of health information as well as in influencing public opinion and understanding of a range of health issues (Lupton, 1994; Seale, 2003; Purcell, Hilton and McDaid, 2014). The use of modern technologies such as smart phones and tablet computers means that news consumption is beginning to shift to online news sources (Chyi and Chadha, 2012) such as [dailymail.co.uk](http://dailymail.co.uk) and [theguardian.com](http://theguardian.com). The news media have been identified as playing a significant role in



agenda setting through the way certain outlets are able to select, control and prioritise certain health messages (Entman, 1993). As a result of such selective presentation and emphasis, the media can shape what views come to be seen as normative or valid and can shape perceptions of risk and blame in health settings. Therefore, there remains value in examining established media forms such as newspaper articles (Purcell, Hilton and McDaid, 2014).

### 5.2.1 Media analysis and (in)fertility

Media analysis research has been undertaken examining newspaper representations of a range of different reproduction and health related topics, including abortion (Purcell, Hilton and McDaid, 2014), swine-flu (Hilton and Smith, 2010) and the HPV vaccination programme (Hilton et al., 2010). Research has also examined the presentation of older mothers, or older motherhood, in the printed press (Shaw and Giles, 2009; Campbell, 2011; Budds, Locke and Burr, 2013), and a very small number of studies have examined egg freezing (Martin, 2010; Van de Wiel, 2014). While examined in brief in chapter two (2.1.5), those studies which examine older motherhood and egg freezing will now be critically reviewed below.

Whilst the focus of their research was the presentation of older mothers in UK newspapers, research by Shaw and Giles (2009) provides the earliest insight into the representation of egg freezing in the UK printed press. These authors note how early publications (drawn from 2006) described egg freezing as a ‘Frankenstein’ technology which was described as ‘alarming’ and ‘frightening’ (2009:229). They also noted how older mothers were presented as ‘selfish’ by deliberately delaying motherhood and noted how their actions were presented as a violation of the ‘natural order’ (2009:221). This notion of older mothers as selfish was also identified by Campbell (2011) in her analysis of media coverage in Canada of the case of 60-year-old Ranjit Hayer, who gave birth to twins in Calgary in 2009.

A more detailed study examining the way older mothers and older motherhood were constructed in newspaper articles comes from Budds, Locke and Burr (2013), who analysed 26 UK newspaper articles retrieved through ‘Google’ on the topic of older mothers. Using a constructionist thematic analysis approach, Budds et al examined how newspaper articles constructed a right time for motherhood yet did not recognise how the timing of pregnancy was rarely straightforward or completely within women’s

control. They also noted how the media positioned women as wholly responsible for choosing the timing of pregnancy and, as a consequence, accountable for the associated risks of delayed childbearing and older motherhood and to blame if they experienced any adverse outcomes. Whilst the analysis from Budds et al is useful, and reflects similar findings to those in the present study, it does not provide any information on the presentation of egg freezing. Furthermore as the analysis undertaken was a thematic, rather than a critical discourse analysis, Budds et al did not seek to 'lift the veil' (Wodak and Meyer, 2015) on specific power relations within the text.

The only two papers to provide insight into the representation of egg freezing in the British printed press come from Martin (2010) and Van De Weil (2014<sup>18</sup>). However, while offering some insights, the data collected by these authors was limited in depth and scope. Martin (2010) undertook an ethnographic mixed methods study combining participant observation of fertility seminars with the review of textual materials including journal articles, marketing materials and newspaper reports from both the UK and US. Martin did not provide details for the time period over which the newspaper articles were drawn, nor the number included, but the newspaper articles cited in the text date back to 2004. Martin presents a compelling account of the dichotomous portrayal of users of egg freezing for medical compared to social reasons. She also notes three narratives of female users of social egg freezing as: vulnerable to exploitation, selfish for putting their needs ahead of more important priorities and as liberated and forward-thinking. However, much of this analysis appears to have been drawn not from British newspaper articles but from the other sources included in her review. The second study by Van De Wiel (2014) examined the way news articles presented female fertility, reproductive ageing and egg freezing in two newspapers between 2000 and 2012. The newspapers in this sample were *The Guardian* in the UK and *Volkskrant* in the Netherlands. In her analysis Van de Wiel noted how the female body was negatively constructed through narratives of inevitable decline and failure and, similar to Martin (2010), identified the rhetorical distinction between social and medical motivations for egg freezing. She also noted how users of the technology sought the procedure to provide them more time to find 'Mr Right'. Significantly, she suggested that the use of egg freezing did not symbolise a reproductive choice to have children in the future, but could be interpreted as a decision to maintain reproductive potential in the face of

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<sup>18</sup> An additional paper by Van De Weil (2015) provided an analysis of a documentary 'Eggs for later' (Schellart, 2010) the discussion of which was provided in chapter two.

messages about the biological clock running out. Whilst providing new insight into the presentation of women's fertility and the technology of egg freezing, the very limited sample utilised in this research means it is difficult to ascertain how transferrable the research findings are likely to be to other publications in the UK or Netherlands. As this brief literature review demonstrates, there is very little known about how British newspaper articles construct egg freezing and female users of this technology.

### **5.3. Integration in overall project**

The media analysis undertaken for this research was part of three data collection strategies utilised across the whole project in order to fulfil its aims. Drawing on Layder's theory of domains (2006), and in particular through the examination of the domain of contextual resources, this first phase of the project sought to explore the way the British printed press discuss egg freezing, the users of this technology and the discourses which surround this discussion.

Thus, whilst this research sought to examine individual women's accounts of reproductive timing and their experience of freezing eggs for social reasons, it also aimed to look more broadly at how the technology and the users of this technology are constructed in media discourse. Therefore the aim of this phase of the research was to examine both the 'manifest' and 'latent' content of the articles. Manifest content refers to the more 'objective' characteristics of a given text, whereas analysis of the latent content requires a more interpretative investigation (Berelson, 1952; Clarke and Everest, 2006). The aim of this part of the research then was to quantitatively examine the way newsmakers present and discuss social egg freezing by examining the 'manifest' content of the articles. The data generated from this was then used to inform a detailed qualitative critical discourse analysis which examined the latent content of the articles. The decision to undertake analysis of both the manifest and latent content was made because, in isolation, the findings from the manifest content would be unable to indicate any clear relationship between the media texts and their impact on shaping social attitudes or opinion (Newbold, Boyd-Barrett and Van den Bulck, 2002). Instead, by combining the two approaches to analysis the findings generated from the content analysis could provide some context within which to set the critical discourse analysis. Furthermore the content and critical discourse analysis also assisted the identification of emerging salient issues for exploration in the semi-structured interviews.

### 5.3.1 Rationale for inclusion of media analysis

It has been estimated that around half of infertility patients search online for fertility related information and about one in four specifically seek out this information from news media sites (Huang et al., 2003; Malik and Coulson, 2008). As noted above, recent research from Waldby (2015) reported that most of the female users of egg freezing in her sample first came to learn about the technology from print media coverage or from the experience and knowledge of their friends or relatives. The importance of examining media messages about egg freezing technology and how users, or potential users, of this technology are constructed and discussed therefore warrants further investigation.

### 5.4. News media sample

In the first phase of this research the online database, Lexis Nexis, was used to identify two samples, one for use in a content analysis (CA) and another for use in a critical discourse analysis (CDA). To be included in the sample, the newspaper articles needed to:

- Be focused on the topic of egg freezing for social reasons
- Have been published between the 1st January 2006 and 31st October 2011
- Contain one or more of the key words which were used as search terms '*oocyte cryopreservation*', '*egg freezing*' and '*fertility preservation*'.
- Come from either broadsheet or tabloid newspapers<sup>19</sup>

The time period identified was selected as a previous examination of the databases suggested that such a parameter would generate a sufficiently large, but manageable, number of articles for analysis. Furthermore the decision to analyse papers to the end of October 2011 was also made so to allow time for news articles to emerge from the American Society for Reproductive Medicine (ASRM) Annual Conference which took place that month. A similar approach was taken by Shaw and Giles (2009) in their media analysis of 'older mothers' where a week's worth of media content during the 2006 ASRM Annual Conference was analysed. The search terms were selected as previous inspection of the Lexis Nexis database indicated that they reflected the

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<sup>19</sup> Unaffiliated magazine articles were not included in the sample nor were articles published in Irish (Eire) editions of newspapers. Magazines affiliated with newspapers such as 'You' magazine included in the Daily Mile were included in the sample

language on social egg freezing. The Lexis Nexis search generated 177 articles and, after the removal of duplicates and articles that were deemed not relevant to the research, 117 articles remained. These articles were then subjected to a media content analysis (Krippendorff, 1980).

## 5.5. Content Analysis

Media content analysis has become a specialised sub-set of content analysis which is itself a well-established research methodology, first thought to be used by Lasswell in 1927 in the study of war propaganda (Lasswell, 1927; Macnamara, 2005). When describing content analysis Lasswell suggested it could be best understood as the analysis of:

‘Who says what, through which channel, to whom, with what effect’ (Lasswell, 1948:12)

Since its initial use, content analysis has been applied to the examination of many forms of written, verbal and visual communication messages (Cole, 1988). As a method of analysis, it has a long history of use across a variety of disciplines including sociology, communication, journalism and psychology (Elo and Kyngäs, 2008). Described as a ‘research technique for the objective, systematic and quantitative description of the manifest content of communication’ (Berleson, 1952:18), content analysis has been used both qualitatively and quantitatively. The notion of this form of analysis as ‘objective’ has been widely disputed due to the recognition that even the most scientific methods used in social research are not entirely free from subjective judgements or decision (Macnamara, 2005). Furthermore, Berger and Luckmann (1966) highlighted how, particularly in relation to media content, texts are open to varied interpretations and therefore cannot be understood as entirely objective. However one of the strengths of this form of analysis lies in its capacity for transparency. This is because when used effectively and appropriately, a content analytic approach can demonstrate how raw data is assigned to categories, enhancing both the reliability and replicability of the research (Bryman, 2001).

### 5.5.1 Process of analysis

An inductive approach to the analysis was taken which allowed the codes/categories used in the coding scheme to be drawn directly from the text. This involved reading through a random sample of the articles to become familiar with the data and begin the process of devising a coherent coding scheme (Polit and Beck, 2004). Prior to beginning the analysis, a small number of a-priori codes were identified; these codes were drawn from guidance in the academic and instructive literature on the use of content analysis (Guillaume and Bath, 2008; Sjøvaag and Stavelin, 2012; Riff, Lacy and Fico, 2014) and included the categories 'word count' 'newspaper type' 'newspaper publisher' and 'reasons for egg freezing'. Following this a process of open coding was undertaken on a small subset of the data, where the texts were annotated descriptively by documenting and describing the content, creating new categories. This process enabled the identification of further aspects of the texts which were important to record and which had not previously been considered prior to engaging with the subset of the sample. Examples include: 'reference to research', 'use of emotive tones', and 'author type'.

Following open coding, the categories were grouped under higher order headings (Burnard, 1991) with some of the categories collapsed and new categories such as 'use of real life stories', and 'article type' identified as salient. The resulting coding scheme was piloted with a further sub-sample of the data. This process of refining the codes was not linear but often required codes and categories to be further refined. Such a reflexive approach to coding is recommended by Sjøvaag and Stavelin (2012), with the aim of creating a sufficiently detailed coding scheme to ensure high intra-rater reliability (consistency by one coder) as well as reproducibility (Stemler, 2001). By ensuring consistency in this way, the findings should be replicable and allow valid inferences to be made from the text (Weber, 1990; Krippendorff, 2012).

The final coding categories which were used in the Content Analysis were as follows:

- |                             |   |                            |
|-----------------------------|---|----------------------------|
| • Number of words           | • Use of emotive tones                        | • Positive position on SEF |
| • Year of publication       | • Use of real life stories                    | • Neutral position on SEF  |
| • Newspaper publisher       | • Article type                                | • Negative position on SEF |
| • Newspaper type            | • Use of 'buzz' words                         |                            |
| • Position in the newspaper | • Reference to research                       |                            |
| • Page number               | • Scientific terms used                       |                            |
| • Author gender             | • Reasons given for women's engagement in SEF |                            |
| • Author type               |   |                            |

Figure 3: Final categories for use in Content Analysis

Whilst some of the data could be somewhat objectively categorised, e.g. the number of words in an article or its year of publication, for other parts of the analysis interpretative judgements were required, such as when categorising the articles' overall position on older motherhood and social egg freezing. This involved making subjective judgements about the overall tone of the article, which was sometimes difficult. To ensure consistency, criteria for each categorisation were developed and discussed with the supervision team (table 7).

Most of the articles discussed egg freezing in both positive and negative ways. However, many articles demonstrated greater commitment to one position than the other and were therefore coded with relative ease. In some cases the articles had to be read a number of times to determine whether it contained more positive or negative tones. However in some cases it was not possible to code as either positive or negative and these articles were instead coded as holding either a neutral position on egg freezing or, should the article contain no value statements or judgments, 'unable to discern'.

| Positive  | Negative   | Neutral  | Unable to discern   |
|---|--|--|---|
| By using positive adjectives when describing, or referring, to the technology   | Using negative adjectives when describing, or referring, to the technology   | Contain value judgments about egg freezing   | Contain no value statements or judgments about egg freezing |
| By focusing more on the benefits of egg freezing than the costs or risks  | By focusing more on the problematic aspects of egg freezing such as the costs or risks rather than the potential benefits                            | Unable to be coded as positive or negative as no consensus was reached within the article  |   |
| By portraying the potential, or actual, female users of this technology in a positive manner such as by describing them as being 'right' or 'responsible' | By portraying the potential, or actual, female users of this technology in a negative manner by describing them as irresponsible, selfish or foolish | OR<br><br>Unable to be coded as positive or negative as the position presented in the article appeared balanced and not in favour of one position over another |   |

Table 7: Criteria for categorising the 'overall position' of articles on social egg freezing



## 5.6. Content analysis: descriptive findings

### 5.6.1 Description of the sample

Commentary on egg freezing was present across most of the major newspapers in the UK, however a larger proportion of articles came from broadsheet newspapers such as The Times and Sunday Times (see figure four). A breakdown of the sample can be seen in table eight.

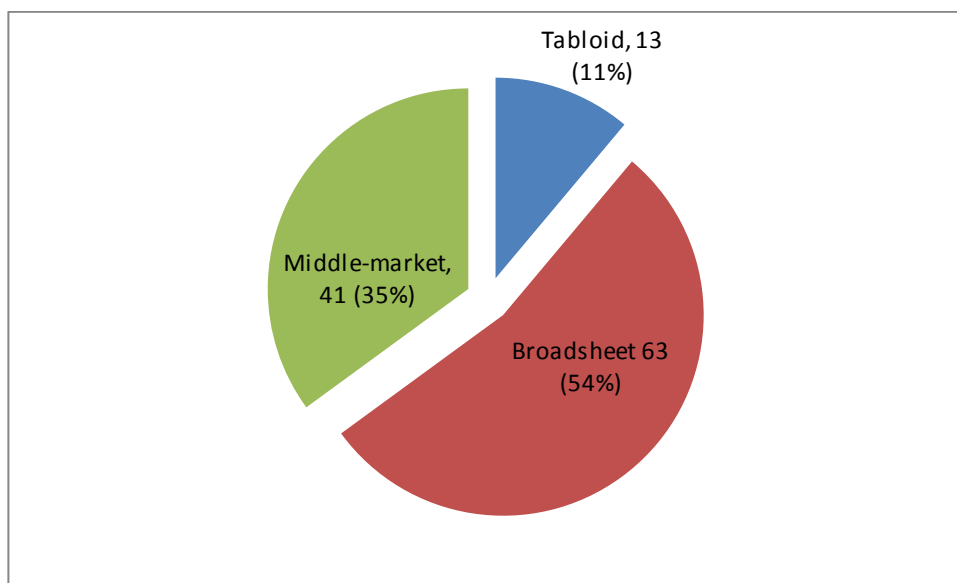


Figure 4: Newspaper sample breakdown by publisher type

|                   |                                       | Total articles |     |
|-------------------|---------------------------------------|----------------|-----|
| Genre             | Title                                 | n              | %   |
| <b>Broadsheet</b> | The Times and Sunday Times            | 28             | 62  |
|                   | The Guardian                          | 13             | 11  |
|                   | The Telegraph and Sunday Telegraph    | 13             | 11  |
|                   | The Independent                       | 6              | 5   |
|                   | The Observer                          | 3              | 3   |
| Subtotal          |                                       | 63             | 54  |
| <b>Mid-market</b> | The Daily Mail and The Mail on Sunday | 26             | 22  |
|                   | The Express or Sunday Express         | 15             | 13  |
| Subtotal          |                                       | 41             | 35  |
| <b>Tabloid</b>    | The Mirror                            | 7              | 6   |
|                   | The Sun                               | 6              | 5   |
| Subtotal          |                                       | 13             | 11  |
| <b>Total</b>      |                                       | 117            | 100 |

Table 8: Breakdown of newspaper articles in the sample

On average the articles from broadsheet and mid-market newspapers were longer in length (915 and 908 words respectively) than the articles from the tabloid newspapers (576 words). The average number of words for all of the articles was 873.

### 5.6.2 Presentation of egg freezing technology

Using the criteria presented in table seven, all of the articles were coded according to how they presented social egg freezing. Whilst it was possible to code the majority as presenting social egg freezing as positive, neutral or negative, a third of the articles presented no value statements or judgments. This was in part due to the high proportion which primarily reported on recent research reports and press releases from conferences such as the annual meeting of the American Society for Reproductive Medicine. The articles which presented no value statements were also often much shorter: on average

481 words. Once these articles were removed, and only those articles which could be categorised as positive, negative or neutral remained, a decidedly mixed picture appeared: the articles were clearly split three ways.

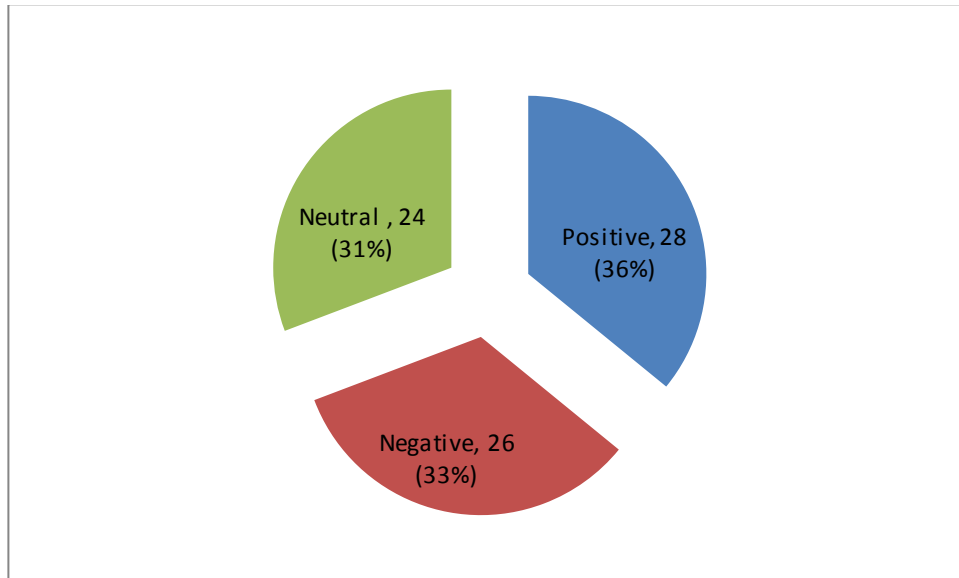


Figure 5: Overall tone of articles with reference to egg freezing

A third (33%) of articles that discussed egg freezing negatively often included warnings about the success rates of the technology, referring to it as a con or a confidence trick. In these articles the experimental nature of the technology was highlighted and it was suggested that women were being sold false hope regarding their fertility and future childbearing potential. These articles also suggested that instead of pursuing egg freezing, women should instead be pursuing motherhood at a time more suitable to their body clock and should accept the biological and natural limits of their own bodies.

Just over a third of the articles (36%) discussed egg freezing in more positive terms, referring to egg freezing as 'revolutionary' by allowing women to 'take charge of their own fertility' and 'keep their options open'. In these articles, egg freezing was often portrayed as positive for women's choice by allowing women more time to find a suitable partner before settling down and having children. It was further suggested that women seeking to delay childbearing were doing so not just to benefit themselves but to benefit their future children; these women were described as doing the right and responsible thing by delaying childbearing until what they deemed was a more appropriate time. This notion of appropriate childbearing will be explored in more detail

below. A smaller proportion of articles (31%) presented and discussed egg freezing in a neutral way, identifying both its positive characteristics and potential as well as presenting the limitations and the possible risks involved in the use of the technology.

### 5.6.3 Article characteristics

In addition to analysing the overall tone of the articles, an examination of the main messages presented to the reader was also carried out. All articles were coded according to 'article type'. This included: opinion pieces, new items, research reporting etc. Figure six below shows how the most common type of articles identified were those reporting on research published on egg freezing (34%). Whilst the search parameters deliberately sought to include the news articles generated from the ASRM annual conference in 2011, the high number of research reporting articles in this sample was not simply an artefact of this inclusion; articles reporting on research were spread throughout the sample. The high proportion of research reporting partly accounts for the large proportion of articles which were found to contain no value statements or judgments about egg freezing. The second most common type of article (18%) were those which acted as information providers which sought to explicitly inform the reader about egg freezing technology and fertility more generally. Such articles presented information about fertility decline as well as risk factors for infertility. Examples of these articles included statements such as:

*Women are fertile from about the age of 15. The peak age for female fertility is the late teens and early twenties. It then slowly declines to age 35 and falls sharply after that.* (Article, 43)

*There is a clear link between cigarette smoking and infertility* (Article 14)

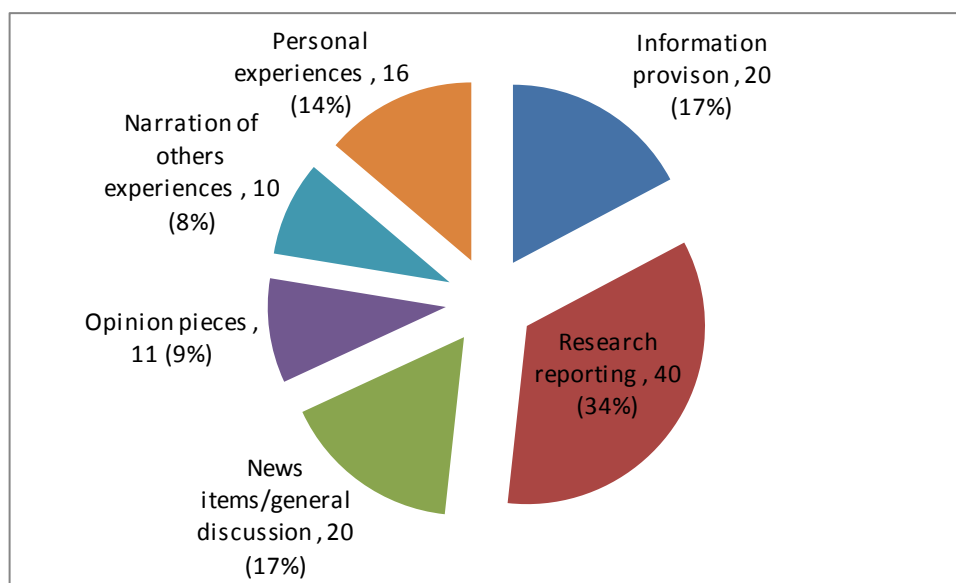


Figure 6: Article type

The same proportion of articles, (18%) were general news items discussing egg freezing. Compared to those coded as ‘information provision’ these more general articles discussed the egg freezing procedure, clinics offering the procedure and sometimes suggested why women may use the technology. A smaller proportion of articles (9%) were opinion pieces about egg freezing where the author discussed and offered their opinion on the technology. These opinion pieces were clearly split between positive and more negative, cautionary representations.

Almost all of the ‘opinion pieces’ made use of emotive language, citing, for example, the ‘panic’ associated with age-related fertility decline. The use of emotive tones and descriptors was found in just under half of all the articles (48%). The majority (22 out of 28) of positively coded articles were found to contain emotive language. These articles referred to egg freezing technology as ‘wonderful’ and women using the technology as ‘fertility pioneers’. These articles also contained references to women’s feeling of panic and the fear of time slipping away, thereby highlighting the sense of urgency experienced by users and potential users of egg freezing technology. Egg freezing was thus often positioned in a way to manage the fears the emotive language used reflected or invoked.

As figure six demonstrates, 22% of the articles (n=26) were focused on describing the experiences of people who had experienced infertility and/or their engagement with some form of assisted reproduction. Out of these 26 articles, 17 were coded as presenting a positive overall position on social egg freezing. The use of 'real life', human interest stories, to convey information about fertility, ARTs and more specifically egg freezing was found throughout the sample and was specifically coded for after the process of open coding indicated its relevance. These stories were found in half of all the articles. The role of these 'real life' stories in constructing the 'right time' for childbearing will be examined in more detail later on in this chapter.

It was possible to identify the gender of the author in most of the articles (88%). Most of the articles were written by women, 71% (n=73). The female authors also tended to present a more favourable view of egg freezing than the male authors. This may have been because many of the articles written by women (n=27) contained reference to their own or other women's experience of infertility and/or use of ARTs. By comparison only two articles written by men contained similar stories.

Sixty percent of the articles within the sample did not assign a particular title to the authors, however 33 (28%) of the articles were coded as written by a specialist author such as science editor or health correspondent. Only four of these articles presented egg freezing positively, instead the majority were presented either neutrally (n=10) or without value judgements (n=11). However this was a reflection of the types of articles written by these authors, which were often reporting on new research (n=17) or presenting 'the facts' of egg freezing (n=6). Additional author types can be seen below in figure seven.

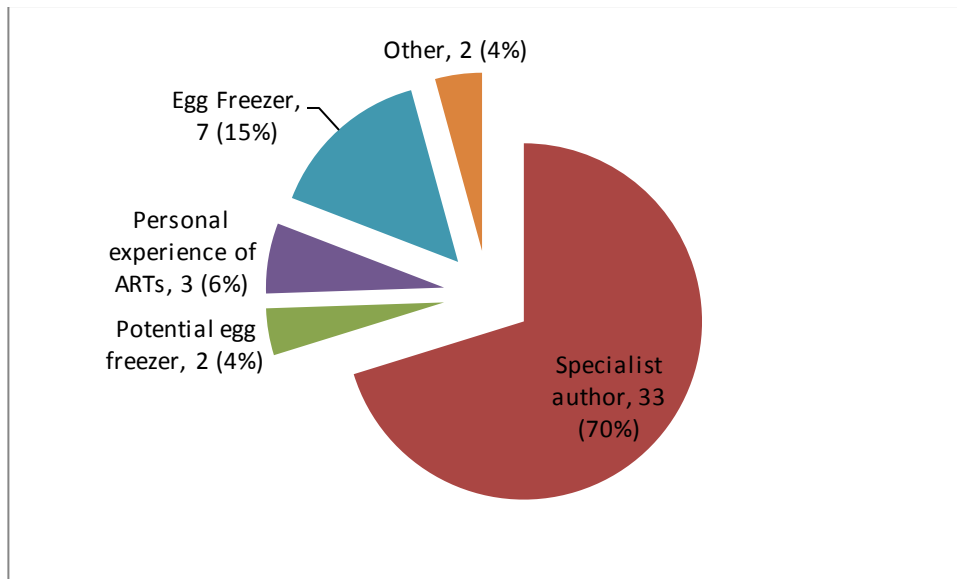


Figure 7: Author type

As the above figure indicates, 12 articles were written by an author who had experience of some form of assisted reproductive technology. All of the articles written by women who had frozen their eggs discussed egg freezing in a positive manner. However, the articles written by women who were coded as potential egg freezers or who had personal experience of other ARTs displayed more mixed attitudes towards the technology.

#### 5.6.4 Reasons for egg freezing

This analysis also sought to include a categorisation and quantification of the reasons presented about why women were undertaking egg freezing. In order to do this, the numerous reasons why a woman may wish to undergo social egg freezing were open coded. After all papers were reviewed the codes were categorised as follows: relationships, medical, career, finance/cost of living, 'lifestyle', and 'other'. The 'other' category included three articles citing advanced age, education and moral objections to embryo freezing. Twenty-one of the 117 articles cited medical reasons either related to cancer or Turners Syndrome, and 12 identified no clear reason for undergoing the procedure. As the aim was to identify reasons given for social egg freezing, these 33 articles were removed from the sample when putting together the figure below.

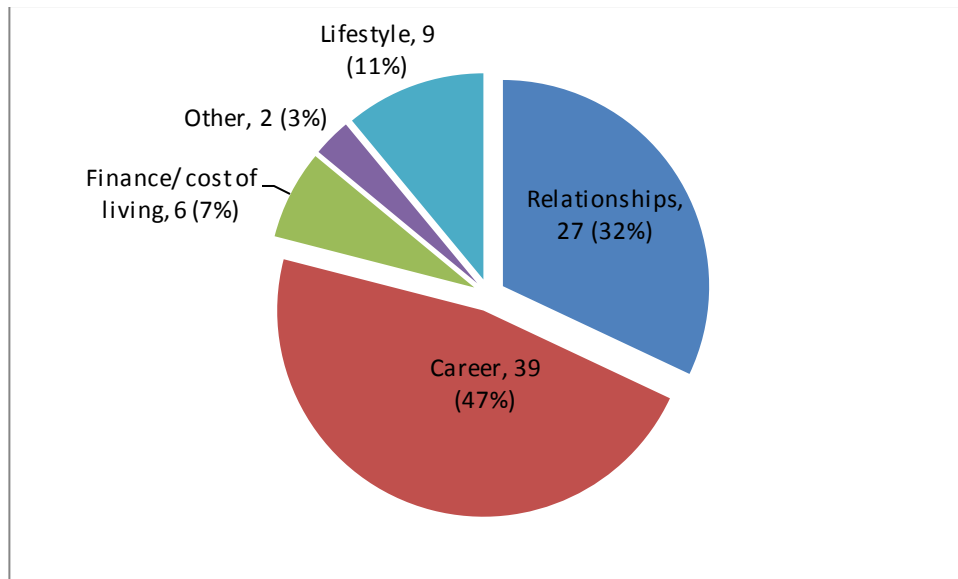


Figure 8: Reasons for social egg freezing

As figure eight shows, the most common reason presented in this sample for women's use of egg freezing related to women's careers, followed by relationship reasons. This reflects much of the academic discussion on egg freezing where egg freezing technology is framed in terms of its potential to benefit women in the labour market by allowing them more time to invest in their education and career before having children (Gold et al., 2006; Vallejo et al., 2013) as well as more time to find a suitable partner (Petropanagos, 2010).

### 5.6.5 Conclusion

Analysis of the manifest content of 117 news articles provides some initial data identifying which newspaper types and outlets are publishing most often on the topic of egg freezing. It has shown how significant portions (51%) of these articles were made up of news reports of recent research into egg freezing (n=40) or articles which were structured around giving information and advice about the limits of natural fertility and the use of egg freezing technology (n=20). Discussion of egg freezing was highly variable with newspaper articles discussing the technology in almost equally positive, negative or neutral ways, with no dominant attitude towards egg freezing identified. Many (22 out of 28) of the articles which were coded as discussing egg freezing in a positive manner contained the use of emotive tones and descriptors. Furthermore, articles written by women compared to men also appeared to present a more favourable



discussion of egg freezing. This may have been in part due to the fact these articles were more likely to have been written by women who had experience of egg freezing or infertility. Finally this analysis indicates that the dominant reason for egg freezing presented in these articles was for 'career' reasons. This finding reflects the prominent perception, as identified in other news media research (Budds, Locke and Burr, 2013), that women are consciously choosing to delay motherhood for reasons related to their career or personal development. This notion of strategically delaying motherhood is explored in more detail in the second half of this chapter, which, using critical discourse analysis, provides a detailed, qualitative and contextual analysis of the latent content within these texts.

### **5.7. Critical discourse analysis**

Whilst the above content analysis is able to provide some descriptive information on who is writing about egg freezing and the manifest content of these articles, a CDA provides a more critical analysis of newspaper coverage. This includes an examination of the meanings and role print media may play in the production and reproduction of certain discourses about motherhood, as well as how media discourse constructs reproductive timing and notions of choice in relation to reproduction.

Being able to examine media texts in such a way is important as whilst media texts do not 'merely 'mirror realities' as is sometimes naively assumed; they constitute versions of reality' (Fairclough, 1995) and play a key role in influencing 'knowledge, beliefs, values, social relations, social identities' (1995:2). Such a characterisation of the media and its role in society, further reflects how it can be seen to constitute a core part of Layder's domain of contextual resources and thus, warrants or supports the integration of this phase of the research into the broader aims of this study.

The second phase of the media analysis was an in depth CDA of 30 articles, a subset of those included in the content analysis. These were selected by identifying the most recent articles published as of the 31st October 2011 which were 300 words or more in length. A flow diagram (figure nine) below shows the selection process and the breakdown of the final sample of 14 tabloid newspapers and 16 broadsheets.

## Data collection flow chart for media analysis using Lexis Nexis

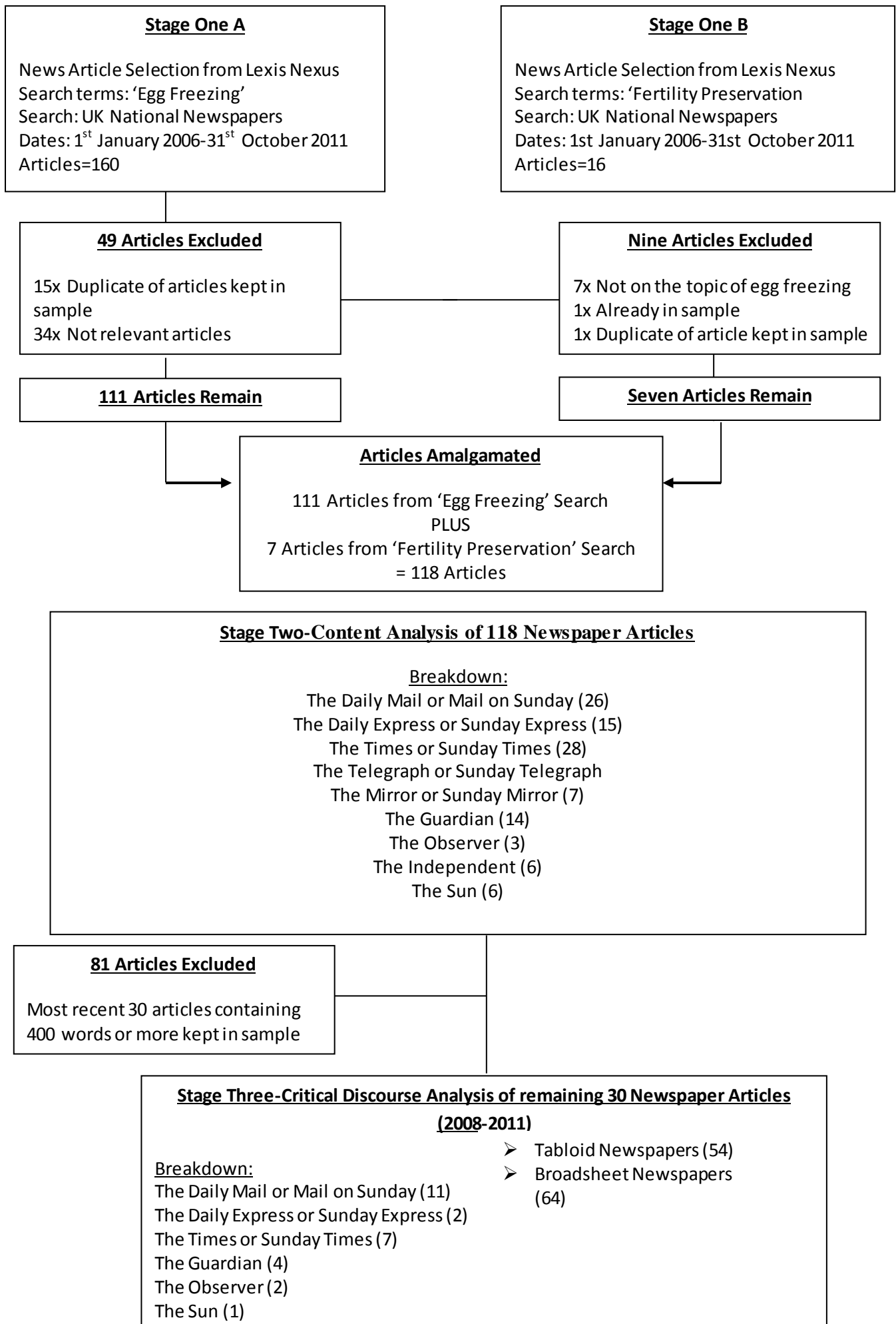


Figure 9: Data collection flow chart for media analysis using Lexis Nexis

The notion that media texts do not mirror reality, but instead may actively be involved in the construction of reality, stems from what has come to be known as the linguistic turn, a phrase popularised by Richard Rorty (1967). The linguistic turn was characterised by a shift in focus from 'language being thought of as a medium for expressing meanings that pre-exist linguistic formulation to a system that constitutes meaningfulness in its own terms' (Locke, 2004). This shift meant that, instead of reality being considered as preceding and shaping language, language became seen as the shaping force of reality. Therefore the aim of CDA is to examine texts to identify and illustrate the relationship between the text, the social conditions from which it emerged and the ideologies and power relations behind its formulation (Richardson, 2007). Critical discourse analysts aim to 'lift the veil' on frequently hidden and obfuscated power relations (Wodak and Meyer, 2015) and 'pierce the opacity' of the arrangements of structural dominance which are taken as natural due to the powerful effects of ideology and hegemony (Locke 2004:32). Therefore the aim of much CDA is to highlight the hegemonic nature of social relations and provide critical knowledge on the discursive and ideological practices imbued in these relations.

CDA has been criticised for lacking a coherent structured methodological approach and for not having a clear strategy for analysis. This is because, as with Grounded Theory (Glaser and Strauss, 1968), data collection is not a discrete phase which is completed prior to data analysis. Instead, sampling, data collection and data analysis often run concurrently. Therefore it has been suggested that it is often more helpful to understand CDA as an approach to studying the social world than as a fixed method (Cheek, 2004). For this reason, it has been suggested that the researcher has a special responsibility to explain the analytic approach they have taken in their work (Annandale and Hammarstrom, 2011).

### 5.7.1 Process of analysis

This research subscribes to Norman Fairclough's Dialectical-Relational Approach to critical discourse analysis (Fairclough, 2009) which sees social conflict in a critical way and aims to identify unequal social relations in discourse, with a particular focus on dominance and resistance (Wodak and Meyer, 2009). It also draws on much of the work from the Foucauldian CDA tradition which seeks to examine how discourses 'facilitate and limit, enable and constrain what can be said by whom, where, and when' (Parker,

2014). Therefore this research seeks to identify the ways in which dominant discourses and vocabularies structure the way social actors think and act in the social world (Hutchby and Wooffitt, 2008) and aims to highlight how often discourses that are taken for granted give rise to certain subject positions when discussing topics such as delayed motherhood, egg freezing and choice.

Fairclough's approach to CDA sees three distinct dimensions residing in every discursive event; it is simultaneously a text, a discursive practice and a social practice (Fairclough and Wodak, 2005). Therefore this CDA was conducted according to Fairclough's three dimensional framework which examined the text at the micro, meso and macro level (Alvesson and Kärreman, 2000). The analysis was undertaken in a number of stages, each stage piercing deeper into the text and its construction. Throughout the analysis hard copies of the articles were annotated with corresponding notes, thoughts and observations. Constant comparisons were also made between the articles noting similarities and differences in the way knowledge and attitudes were communicated as well as what was not communicated. A breakdown of the approach taken is detailed below.

**Stage one:** An initial, uncritical first read of the article, noting initial key messages and viewpoints, much like an ordinary consumer of the newspaper would approach the document.

**Stage two- micro level analysis:** A descriptive stage of analysis concerned primarily with the formal manifest properties of the text such as linguistic structure, lexical choices, representational and rhetorical strategies (Machin and Mayr, 2012).

**Stage three- meso level analysis:** A more detailed analysis of the construction of texts specifically looking at how power is constructed in the text, such as through the use of quotation verbs (the words used to describe the way people speak), over lexicalisation (the consistent repetition of a word or phrase), and hedging (a strategy used to distance oneself from what is said, to avoid directness or commitment to a statement). Attention was also paid to the use of rhetorical tropes such as personification, metaphors and rhetorical questions and how these privileged certain voices or positions. This stage specifically sought to examine the way in which the textual formation of the article served to highlight or cloak certain discourses or beliefs, thus suggesting otherwise concealed values and power relations.

**Stage four-macro level analysis:** An amalgamation of all three previous stages to critically appraise and evaluate the way the articles discussed and presented egg freezing and related topics.

This process of analysis and data interrogation resulted in the identification of several discourses, these being: the notion of 'appropriate childbearing' and 'appropriate mothering'; the 'danger of delaying'; 'responsibility for childbearing'; 'blame and failure'; and 'freedom and choice'. In addition to this, the analysis identified a number of micro level artefacts within the texts, such as the use of quotation verbs, the overlexicalisation of personal pronouns and the use of specific lexical choices; all of which constructed social egg freezing, and the women who make use of the technology, in particular ways. The effect of these textual artefacts will be highlighted and discussed in relation to the discourses which they help construct. By highlighting the effect of these textual artefacts in such a way, it is intended that the discourses which are identified in this analysis are effectively evidenced by reference to these textual features.

## 5.8. Critical discourse analysis: findings

The remainder of this chapter will discuss the findings of the CDA and will also provide an opportunity for some of the findings from the content analysis to be discussed in context. The discourses identified in this analysis will be discussed in turn, beginning with the discourse of 'appropriate childbearing'.

### 5.8.1 Appropriate childbearing

The dominant discourse of motherhood in Western society is that of 'intensive mothering' (Hays, 1998) or of the 'good mother' (Brown, Small and Lumley, 1997; Lupton, 2000; Liangputtong, 2006). Such a woman is, most often, heterosexual, selfless, feminine, fertile, middle class and aged between 25 and 35 years of age (Gillespie, 2000; Malacrida and Boulton, 2012; Budds, Locke and Burr, 2013). The strength of this dominant discourse has meant that many women strive for this ideal both before they become mothers (Malacrida and Boulton 2012) as well as after the child is born (Miller, 2007; Sevón, 2012). In this discourse a good mother is framed as a selfless woman who has 'abandoned-or at the very least is prepared to abandon-their former, childlike, and

self-centred selves for a high version of womanhood' (Malacrida and Boulton 2012:751). This notion that motherhood elevates a woman's status from child to woman (Layne, 1990) has arguably contributed to childless women's experiences of social denigration and stigma (Gillespie, 2000). Motherhood as a form of social status is well entrenched in the Western world (Gillespie, 2003) and despite changes in gender roles and the social expectations of women, women are still disproportionately essentialised as wives and mothers (Letherby and Williams, 1999). This has meant that when challenges to the traditional 'good mother' have been identified, such as the single, teenage or the lesbian mother, these alternatives are framed as violations of the norm and as deviant (Budds, Locke and Burr, 2013). It is also most often these mothering types that are fervently discussed in the press.

The discourse of the 'good mother' was evident in the articles, primarily through the discussion of women who were unable to attain this ideal, most often due to their age or relationship status. This led to the identification of the discourses of 'appropriate childbearing' and 'appropriate mothering' which suggested that a certain kind of woman should become a mother at a certain time and in a certain way. This notion and importance of 'appropriate childbearing' was identified through the way women who were considered to be inappropriate mothers were constructed in the newspaper articles.

As mentioned above, these women were most often those who were unable to attain the ideal of the good mother; they were often single, economically unstable, 'career' women, or 'older' women. These women in particular were deemed unable to provide the care, love, commitment and resources required for a child due to what was perceived as their 'lack' of a suitable partner or their overzealous commitment to their career. They were often the women who were instead presented as better candidates for egg freezing rather than motherhood, until they were able to rectify their shortcomings as a potential mother. These groups of women were positioned as being at odds with the notion of the 'good mother' who embodied more valuable characteristics such as stability, selflessness and an abandonment or at least pausing of individual pursuits such as career making and personal development.

These ideas about women falling short of the 'good mother' role were identified in the text via the use of specific value imbued quotation verbs. Quotation verbs are used to represent the way people speak, are often value laden and can be used to influence the

way a statement is perceived (Machin and Mayr, 2012). In this sample of news articles, women were presented using value imbued quotation verbs such as 'admits' and 'insists' in place of neutral structuring verbs such as 'said'. This use of quotation verbs enabled certain discourses to be communicated through the connotative value of these verb choices (Machin and Mayr, 2012).

Examples of these include:

*'She admits: 'I still hope I'll be lucky enough to meet someone and have a child naturally, but this just takes the pressure off meeting someone' (Article 15)*

*'Older mothers themselves, however, insist that what they might lack in physical agility, they more than make up for in emotional resilience and maturity.' (Article 1)*

The use of the verb 'admits' rather than 'states' or 'explains' in the first example presents the woman as a passive agent and constructs her single status as a deviation from normative life scripts and expectations. The use of the quotation verb 'insist' in the second excerpt suggests that what the actor is trying to convey may be disputed and therefore requires greater emphasis; it also suggests that the actor may lack credibility (Machin and Mayr, 2012). The use of the term insist suggests that the actor is trying to create distance between her own reasons for freezing her eggs (wanting to meet 'Mr Right') and one of the commonly assumed reasons as identified in the content analysis; for career advancement. This presents the desire to freeze eggs for career reasons as less socially acceptable than doing so for relationship reasons, i.e. it is better to be seen as an unlucky-in-love-singleton than a cold hearted 'career woman'. This finding is also supported by Martin (2010) who identified several typologies of egg freezing users, two of which were the naive exploited singleton and the selfish career women. It is significant in this second quotation that the reason given for seeking egg freezing is also further caveated by suggesting that the decision to delay childbearing is due to the fact she does not want to settle for 'second best', and the idea is that she is not alone in this desire.

The third quote comes from a woman whose use of the term 'insists' positions her claim that older mothers are also able to be 'good mothers' at odds with the moral consensus that older mothers are somehow less desirable than women who become mothers at the 'right time'. The use of quotation verbs in this way serves to position these women as

outside of the ideals of 'appropriate childbearing'. These women are presented as *admitting* they lack a partner, *insisting* they did not prioritise their career over motherhood, and as *insisting* on the validity of older motherhood. The use of the passive voice and the value imbued in these quotation verbs, particularly when they could have instead used neutral structuring verbs, frame these women's experiences negatively and as being outside of the 'appropriate mother' ideal.

Media analysis research has noted how women aged 35 or older at the birth of their first child are commonly framed as risky, problematic, unnatural and selfish mothers (Shaw and Giles, 2009; Budds, Locke and Burr, 2013). Shaw and Giles (2009) in particular note how older mothers are presented as seeking to delay childbearing for their own ends by choosing their career or educational advancement over motherhood. They note how this results in these women being labelled as 'self-indulgent', 'selfish' and wishing to 'have it all' at the expense of motherhood (2009:226). A similar discourse of motherhood as something women 'put off' for their own ends was identified in this media analysis. However by presenting older motherhood as a choice in this way, the older mother is constructed as being in direct opposition to the ideal selfless mother who is instead presented as putting her own desires aside in favour of her child. Shaw and Giles (2009) also note how concerns are raised about the social value of the older parent who may not be able to physically cope with the demands of a young child or who may die before their child reaches adulthood. Similar concerns regarding the ability of older adults to keep up with the demands of a small child were also a finding in the present study.

*'What really bugs the acquaintances of these oldest parents is their denial about their decrepitude. Everyone with kids knows that parenthood is the never-ending revelation that you can always be more exhausted. It's squatting and standing and bending and lifting and standing up again. It's handling poo and being smeared with goo and never, ever, ever sleeping'. (Article 5)*

Some of the articles in the sample suggested that older working mothers may not be able to provide the best care for young children especially compared to the abilities of a young stay-at-home 'selfless' mother.

*Babyhood is hard enough, but as they grow, children need to run around in the fresh air, ride bikes and throw balls. How can an aged dad keep up when his physical*



*strength is known to diminish 15 per cent each decade after his 50th birthday? How can a 65-year-old mother summon the stamina and mental toughness to enforce a curfew? "Children are entitled to at least one healthy, vibrant parent," says Julianne Zweifel, a psychologist who treats fertility patients in Wisconsin. "Just because you're alive doesn't mean you're healthy and vibrant". (Article 7)*

However, the analysis did identify a counter discourse which suggested that the social undesirability of older mothers stemmed not from any differences in the level of care they could provide for a child, but instead from prejudicial attitudes against older adults, particularly the competencies of older women.

*The reason people couch their objections to older parents in concern for the children is to mask their more impolitic uneasiness about the parents themselves. But those objections are hypocritical (Article 5)*

*The prejudice against older mothers starts to look a little odd when you consider that one in four working families in this country currently depend on grandparents to provide childcare, according to research by the charity Grandparents Plus. (Article 1)*

The effect of this counter discourse meant that arguments against older motherhood and delayed childbearing on the basis of it being unnatural or bad for the child were no longer accepted as entirely valid. Instead, this discourse of older parents as socially undesirable, was replaced with a more pervasive and arguably more powerful discourse, a discourse recognised by Budds et al (2013) in her study, which presents older mothers and delayed childbearing as risky.

### **5.8.2 The danger of delaying**

A clear discourse which positioned delayed and older motherhood as a risky activity for a prospective mother due to the physical risks was identified. Potential users of egg freezing technology were also constructed as inappropriate mothers due to the fact that they were presented as willing to risk the health and wellbeing of their future child for what were perceived to be their own ends. The risk of advanced maternal age to the health of mother and baby was discussed in a large proportion of the news articles.

*The likelihood of having a baby with a chromosomal abnormality rockets - from a one in 460 chance of Down's syndrome at the age of 34 to one in 40 at age 44. On top of this, miscarriage rates at 45-plus are 75 per cent. (Article 5)*

*The odds of miscarriage or having a baby with Down's syndrome rise once a woman passes 35. Yet more and more of us are waiting to have kids. (Article 20)*

This media discussion about the medical risks of older motherhood, which is often presented as one of the likely outcomes of egg freezing, constructs delayed motherhood as irresponsible, selfish and dangerous.

By positioning egg freezing alongside discussion about medical risks for older women having children, this discourse is strengthened. This lies in its ascription to the biomedical paradigm of reproduction, which Song et al (2012) argues women still ascribe to and have yet to challenge. By invoking the physical risks of older motherhood in the debate regarding the legitimacy of the decision to delay childbearing, particularly by discussing the risk this poses to potential offspring, this discourse has strong moralising tones which are, to a degree, unchallengeable due to their basis in medical 'fact'. This has the effect of constructing egg freezing as inappropriate because it enables women to (deviantly) have children later in life.

In this sample of articles, the medical risks involved in delaying motherhood were commonly put forward by knowledgeable and credible 'experts' who presented the risks of older motherhood and delayed childbearing in the form of statistics, such as the rate of miscarriage or chromosomal abnormalities in mothers aged 35 or older. The presentation of such medical and biological 'facts' by 'experts' such as fertility specialists, researchers, and professors aided the construction of such risks as 'real'. However there were also numerous examples of the risks of egg freezing and delayed childbearing being discussed by other types of experts: those who have alternative knowledge entitlements (Potter, 1996) due to their own experience of older motherhood, delayed childbearing or egg freezing. This 'expert' knowledge was communicated using a particular stylistic device which was highly prevalent in both the CDA sample of 30 articles but was also present in 50% of all of the newspaper articles in the content analysis (58/117). This stylistic device was the use of the 'real life story'.

These real life stories were often narrated in the first person and interspersed with commentary from the journalist. These stories appeared to work as cautionary tales which served to warn other women of the sadness of infertility and the pains and risk of egg freezing. These tales appeared to seek to warn women who were considering delaying their childbearing and often contained prescriptive messages about the mistakes to be avoided.

*I'd given birth so easily before, just using gas and air, but this time I didn't start dilating. My body did not want to give birth naturally. It was horrendous* (Article 1)

*The thing I am dreading the most is meeting other mothers at the school gate once George starts going* (Article 1)

The effect of this was a moralising discourse which due to its 'truth status' gave further weight and credibility to the claims. Thus this notion of delayed childbearing as undesirable and dangerous may be internalised due to its basis in 'scientific fact', which is further validated by the real social experience of 'expert others'. However the pervasive nature of this discourse could be further attributed to the way ideologies of the 'good mother' construct decision making options, making them appear limited. Delayed childbearing is constructed as risky, therefore this discourse constructs delayed motherhood as the less than desirable option. This renders the social actor responsible to adhere to this discourse, by having children at the biologically optimal time, or risk infertility and unwanted childlessness.

### 5.8.3 Responsibility for childbearing

A feature present in almost all the newspaper articles was the assumption that there was a biological imperative for women to reproduce and that women alone were responsible for ensuring conception. These articles contain strong moralising discourses warning women not to leave it 'too late' and 'not to delay' whilst advocating increased medicalisation and appropriation of medical tools such as ovarian reserve tests to help women '*pinpoint your own personal deadline*' (Article 10).

Women's individual responsibility for ensuring conception was effectively foregrounded in many of the news articles by situating women as being the only actor able to improve, protect or preserve fertility. Whilst many of the articles discussed

female fertility, there was very little discussion of male fertility or what men could do to maximise their own fertility and increase the chances of a successful conception. This absence of the male and fatherhood roles is discussed in more detail later in this chapter.

The notion of *parenthood* was also an under discussed topic and was notably absent in the majority of the articles. Instead the term motherhood dominated the discussions. This had the effect of minimising any discussion of a partner's role in creating or raising a child and thereby centralising this responsibility exclusively with women. As a result it was suggested that women had a responsibility towards their fertility, and the suggestion that women were not taking those responsibilities seriously was met with hostility and criticism.

*It is unwise for women to rely on fertility treatment as a back up plan....she should always bear in mind her fitness for fertility* (Article 18)

*Women need to be proactive in their decision making* (Article 18)

*Those who delay starting a family are playing Russian roulette with their fertility* (Article 15)

By nominating women as those with key responsibility for ensuring pregnancy, they were routinely framed in the news articles as the sole persons to blame for any current or future infertility. This key discourse of responsibility which runs through the sample can be demonstrated by reference to a number of hallmarks within the texts; specifically, by the over-lexicalisation of personal pronouns such 'you' and 'your' and the use of value imbued quotation verbs.

Over lexicalisation is where a word is over-present or over-represented in a text and can often be an indicator that the text is attempting to persuade the reader of a certain position or belief (Machin and Mayr, 2012). In the sample there were examples of over lexicalisation of the personal pronouns 'you' and 'your', which had the effect of placing the reader, who was assumed to be female, as being directly addressed by the author and being given instructions about what they should be doing with regards to their fertility. Women were told to '*swap notes with the older women in your family*' and to use an ovarian reserve test to '*pinpoint your own personal deadline*'. Other examples of over lexicalisation include:

*...lifestyle changes and other simple steps may help protect your fertility and improve your chances of having a child (Article 10)*

*If you know you may be at risk of premature menopause you can plan accordingly (Article 10)*

*The longer you have smoked and the more cigarettes you light up, the greater the impact (Article 10)*

*The success rate of IVF using fresh eggs depends on your age (Article 16)*

The use of these personal pronouns when directly addressing women has the effect of constructing childbearing as women's responsibility. Furthermore these texts also presented fertility as something requiring active protection and nurturing. This is reflected in the lexical choices employed when discussing fertility, which convey a sense of urgency and risk and which presents fertility as something a woman should take an active role in protecting.

*...studies point to 35 as the average age when fertility go into free fall (Article 10)*

*The most disturbing question of them all then is why so many women are putting off motherhood, and when it is too late, regretting they did so (Article 15)*

Egg freezing for social reasons was commonly constructed in these media articles as an option for women who wanted to delay childbearing for career or relationship reasons. It was depicted as a backup plan or insurance policy which could be turned to in the event that the woman later found conceiving difficult.

*'It might be worth you considering egg freezing as a back up,' advises Dr Attala. 'Just in case you don't get to meet Mr Right.' (Article 24)*

*I will try again it's an insurance policy in case I don't become pregnant easily in the future. (Article 25)*

A recurring suggestion in these news articles was that egg freezing was another way women could fulfil their obligation towards their fertility and their responsibility for ensuring childbearing. As a result, for some of the women mentioned in the news articles, egg freezing was about maximising their chances of having a child. This technology was therefore seen as another step which could be taken towards ensuring

every option had been exhausted in a woman's journey towards attaining the feminine ideal of motherhood. Furthermore it was also suggested that failing to make use of egg freezing treatment when it was available could be seen as an unforgivable mistake.

*I envisage a time when young women will bank their eggs routinely in order to maximise their chances of creating a family in whatever circumstances later on.*  
(Article 30)

*'I might meet Mr Right and conceive without any problems after 2012, but if I had age-related fertility problems, I'd never have forgiven myself.'* (Article 28)

The notion that egg freezing could be seen as another obligatory step (Britt, 2014) (Britt, 2001) women 'have' to make in order to demonstrate their commitment to motherhood and how the existence of the technology could be seen to constitute a coercive offer (Lauritzen, 1990) is explored in more detail in chapter nine. A further finding, which has been briefly touched on above but which will now be explored in greater depth, was the underlying consensus about the conditions under which egg freezing was deemed acceptable.

#### 5.8.4 Acceptability of egg freezing

In the 30 news articles egg freezing was considered to be acceptable in cases of a medical emergency, such as when a woman's fertility was threatened by impending cancer treatment. By comparison, egg freezing for social reasons (specifically career or education reasons) was deemed as less acceptable.

*"Egg freezing should certainly be offered to women with cancer prior to chemotherapy or radiotherapy in order to preserve their fertility," she says. "But we should not promote it to all women with a view to delaying their motherhood."*  
(Article 22)

In these cases egg freezing was framed as less legitimate; primarily as it was suggested that these women, unlike those needing the procedure due to illness, had a choice and were able to exercise the option to have a child at this time. Women's perceived need to delay childbearing for social reasons was therefore not afforded equal legitimacy as those seeking it for medical reasons. This reflects the dichotomy Martin (2010:533) identified of 'the worthy cancer patient' and the healthy young woman who seeks to

delay motherhood for their own gains. Almost half of the articles which discussed the reasons for women's use of egg freezing in the content analysis identified reasons related to women's career as significant. Whilst the CDA identified the relevance of women's career to their decision to freeze eggs, the articles also noted women's desire for the procedure due to their lack of a partner. The use of egg freezing for this latter reason was presented much more positively. This may have been because the desire to have a child as part of a monogamous, heterosexual relationship reflects cultural ideals which consistently value a two parent family. Egg freezing for relationship reasons was therefore presented as a more legitimate reason for undergoing the procedure. This was demonstrated in the articles which discussed women's lack of a suitable partner as being outside of their control. Furthermore as the excerpts below show, the women quoted in these articles often sought to distance their reasons for seeking egg freezing from the assumption that they were making this decision due to their career goals.

*'It wasn't that I picked my career over meeting Mr Right,' she insists. 'He just hasn't shown up yet. (Article 15)*

*We do look after the so-called 'social egg-freezers' who are doing it as a lifestyle choice but the vast majority of them have been in a long-term relationship that they assumed would lead to babies. (Article 30)*

This distancing strategy highlights how delaying childbearing and making use of egg freezing is framed much more positively when benefiting the future child compared to when it is sought for career advancement or personal development. This reflects cultural notions of the 'good mother' who is framed as altruistic by giving up her own aspirations for the greater value of motherhood.

A final way in which women's responsibility for conception was constructed in these media texts was through the use of specific 'quotation verbs'. Quotation verbs are used to represent the way people speak, are often value laden and can be used to influence the way a statement is perceived. In the CDA sample it was common to find specialists, researchers, governing bodies and academics warning women about their behaviour:

*However a review by the Royal College of Obstetricians and Gynaecologists has warned that if women wait until they are 35 or older to start a family they are six times more likely to have fertility problems.* (Article 10)

*Women who have their eggs frozen so they can put off having a family till later in life may be delaying the procedure too long, fertility specialist warn.* (Article 3)

The use of the metapositional verb (Caldas-Coulthard, 1994) 'warn' infers a degree of danger and risk and suggests that something must be avoided to prevent damage to oneself occurring. This further reinforces the idea that the behaviour of women when delaying childbearing or delaying the egg freezing procedure is deviant, as it is going against their responsibility to ensure childbearing. Furthermore this use of quotation verbs also reinforces the discourse of blame as women are portrayed as engaging in risky behaviours against which they have to be warned.

#### 5.8.5 Blame and Failure

The use of the 'real life story' dominated both analyses. Throughout many of these accounts notions of failure, blame and guilt were present. In particular there were numerous 'admissions' by women who stated that they felt they had failed as a wife or daughter by not fulfilling normative role expectations by becoming a mother. Furthermore it was suggested that these women had not fulfilled their own expectations about the path they expected their lives to take. These deviations were routinely framed as deviant and imbued with moral culpability; women were blamed for being '*too busy enjoying the single life*' (Article 20) for '*failing to meet the right man*' and for '*giving priority to having a career*' or '*securing a home*' (Article 9)

*I felt ashamed I would never had kids as I wasn't able to fulfil my function of being a woman...I would say to girls in their twenties and thirties that the career and big house and cars can wait-the world will still be out there in a couple of years but the chances of having children might not be.* (Article 20)

*...increasing numbers [of eggs] are being stored for what are deemed "social reasons" chief among them, the failure to meet the right man, or the priority given to a career and securing a home.* (Article 9)

These extracts, with their specific lexical choices such as 'ashamed', 'failure' and 'classic mistake', show how the decision to have children or to delay childbearing is framed as a



moral choice which needs to be made correctly. These extracts also demonstrate how women are essentialised as mothers and are framed as being solely responsible for conception and are subsequently to blame when this is not achieved.

The use of first person storytelling also allowed text constructors to 'hedge' some of their opinions and statements by presenting them as factually correct since they rested on an individual's lived experience. The use of hedging means that a speaker can 'avoid directness or commitment to something' and can be used to distance a speaker from statements, reducing the chance of criticism (Machin and Mayr, 2012). A newspaper would be unlikely to say 'women fail as daughters and wives by failing to become a mother'; however, they are able to print the 'admission' of a woman saying:

*I wasn't ready to tell my parents; to admit somehow that I had failed somehow as a daughter (Article 6)*

These two statements contain the same moralising discourses and notions of blame and responsibility. However, as the latter statement is presented as personal opinion it is positioned as being beyond refute or criticism. These discourses of blame and failure, as previously suggested, are tightly bound up with the responsibility women have towards childbearing. As the extracts from the articles above show, when women are perceived as not behaving appropriately towards their responsibility this is met with criticism and hostility. The group of women who were most frequently in receipt of this criticism were those who were seen to be deliberately putting off motherhood by delaying childbearing. This notion of delayed childbearing as an autonomous and conscious choice was very prominent in many of the newspaper articles. Furthermore, the assumption in these texts that women could choose when to have children had far reaching implications for the way in which reproductive choice was understood.

#### 5.8.6 'Choosing' to delay motherhood

One of the most significant findings from this CDA was the way in which women's choice and freedom with regards to planning for motherhood was constructed and understood. In the news articles women were repeatedly situated as autonomous, freely choosing individuals who experienced gender equality and freedom in all aspects of their lives, including in their decisions regarding motherhood.

*Women can push the boundaries by actively choosing when to have their child, whether naturally or aided by scientific advances. In the past, those choices were made for them... (Article 1)*

Such an assumption may have stemmed from the way in which women's agency was theorised and understood. Women were commonly constructed as having what (Einspahr, 2010) refers to as 'structural freedom' which assumes social actors, in this case women, are able to make independent decisions free from external pressure or social influence, that is within a social vacuum. This view of social relations which positions women as culturally and socially dislocated from societal pressure means that structural, social, ideological or political constraints which may influence women's decision making process with regards to childbearing (Cooke, Mills and Lavender, 2012) go unacknowledged and undiscussed. By presenting women as outside of these influencing social structures and ideologies, important issues such as the costs of childcare, women's fears about not being able to return to work after having children, or other financial and career concerns remain silenced. This means that the opportunity to discuss the need for structural or social change is lost and instead women are held accountable for their experience of infertility, and their perceived need to delay childbearing is constructed as being the outcome of personal choice rather than social, economic or ideological forces. This has the effect of constructing women as actively choosing to delay childbearing. This is reflected in this sample of articles which frequently talk about women engaging in active behaviour such as 'waiting', 'delaying' or 'putting off' childbearing. The portrayal of women actively delaying motherhood is significant as it has implications for the way in which motherhood is theorised and understood. The suggestion that women are delaying motherhood constructs motherhood as an inevitable experience for all women and assumes that all women want to become mothers (Letherby and Williams, 1999). This assumption negates and disregards the experience of voluntarily childlessness women (Sevón, 2005) and perpetuates what Gillespie (2000) refers to as 'disbelief' and 'disregard' of childlessness as a valid lifestyle choice. By constructing delayed childbearing as a choice, or a conscious decision, this overlooks the complexities of reproductive timing.

In the news articles included in this analysis there was however some understanding that women do not actively choose to delay childbearing but rather they do not become mothers due to a series of social and emotional events outside of their control. It was

sometimes noted that women did not choose to be single, but that they had been part of a heterosexual relationship which they expected would naturally lead to motherhood, which was cut short by circumstances beyond their control. By situating women as seeking egg freezing due to situations outside of their control, similarly to women who undergo the procedure for medical reasons, using the technology for 'relationship reasons' reasons are perceived as more acceptable and understandable, particularly if women had been following the normative expectations of womanhood by being in a heterosexual relationship up until this time.

*I see a lot of women who say they were with a man for six or seven years that they thought was 'Mr Right' but then when they say they want to have a family it turns out the man was happy just drifting along." (Article 9)*

*I read about egg-freezing, and it seemed one way to take a little bit of control over a situation that was out of my hands. (Article 9)*

A small number of these articles also identified some of the structural and economic influences on women which led them to engage in later childbearing.

*A lot of professional women find they have got a pretty narrow window to have children after getting on the career ladder, paying off the student loan and buying a home," (Article 9)*

*The appalling cost of housing means it takes two salaries to pay one mortgage and many women are going to be 35 before they are in a position to give up work or be able to cope with a big drop in their income. (Article 10)*

Despite the presence of these counter discourses which sought to present delayed childbearing as something outside of women's control, the majority of articles presented women's childbearing decisions as culturally and socially dislocated from societal pressure and influence.

#### **5.8.7 The 'biological clock' and 'Mother Nature' as active agents**

Since the structural and social factors which influence women's childbearing decisions were for the most part obscured in these media articles, this analysis identified how different entities were constructed, and given agency, within the text. These entities, which created alternative scapegoats for the difficulties women experienced when trying

to ensure safe and timely childbearing, were those of the biological clock and Mother Nature.

The 'biological clock' and 'Mother Nature' were personified within the texts as active agents when discussing women's experience of planning for childbearing. This was achieved in a number of ways. Firstly Mother Nature was consistently referred to with capitalised first letters, indicating personification, and was commonly presented as an actor capable of carrying out actions such as creating barriers and creating 'inconvenient schedules'.

*'Egg freezing, egg donation, IVF and surrogacy are just some of the techniques employed to overcome Mother Nature's barriers to late pregnancy.'* (Article 1)

*'...although egg freezing, a more cutting-edge method, offers early adopters another option, a kind of reproductive TiVo for circumventing the inflexible and often inconvenient schedules handed down by Mother Nature.'* (Article 3)

Here it was Mother Nature who was presented as creating barriers and inconvenient schedules which women have to overcome to have their children. However it could alternatively be suggested that although Mother Nature creates a schedule or period of time within which women 'need' to have their children, what actually makes this inconvenient is not Mother Nature 'herself' but the way the social life is constructed. However I suggest that this idea is concealed through the personification of Mother Nature, who is instead constructed as an active agent which can be blamed.

The biological clock, although not afforded capitalised first letters, is also presented as having agency and as actively working against women and causing them harm.

*...the cruelty of the biological clock* (Article 10)

*Women have long known that, compared to men, they are at the mercy of a biological clock which can cruelly cut short their chances of becoming a parent* (Article 10)

By personifying the biological clock and Mother Nature in this way, biological inevitability is constructed as being the source of gendered inequalities which, due to their basis in medical and physiological 'fact', cannot be changed or altered by social circumstance. This reinforces the assumption that women have to accept and work

around such restrictions. This effectively reduces the female body to a fixed and unchanging biological entity unaffected by social change and influence. By personifying social constructs such as the biological clock and Mother Nature in this way, these rhetorical tropes obscure the social and ideological factors which create gender inequalities. Questions about what social changes can, or should, be made to enable women to have children safely at the best biological time go unformulated and this notion of the female body as constrained by biological inevitability goes un-critiqued.

#### **5.8.8 The absence of men as fathers**

In addition to examining the discourses present within the texts, critical discourse analysts also seek to identify what is absent from the text. This research identified a significant omission from the sample of news articles: the discussion of men as fathers. As mentioned above, the notion of parenthood was an under-discussed topic and was notably absent in the majority of the articles. A search of the 30 articles in the CDA sample shows that the term 'fatherhood' did not appear once. The absence of any discussion about fatherhood, or men's role in creating children, had the effect of minimising any discussion of a male partner's role in creating or raising a child and particularly meant that there was no discussion about the role they may play in the decision to delay childbearing. This is significant given that, as discussed in chapter three, research suggests that the male partner's intentions and desires regarding childbearing may influence the timing of first pregnancies among women (Chalmers and Meyer, 1996; Dudgeon and Inhorn, 2004) as well as their childbearing desires (Lazarus, 1994; Kemkes-Grottenthaler, 2003). Therefore, the failure to include any discussion of men's fathering intentions in these media articles obscures its influence upon women's reproductive decision making and instead positions women as 'choosing' to delay motherhood.

#### **5.9. Conclusion**

Together, this content and critical discourse analysis has identified a number of significant findings which demonstrate how egg freezing technology is received, formulated and constructed by the print media, in this case newspaper articles. It has shown how the presentation of this technology, and the users or potential female users, were discussed in several different ways. Those seeking egg freezing for medical

reasons, were presented as deserving users of the technology. However, women utilising egg freezing for social reasons were presented more ambiguously; in particular, those who were constructed as seeking the procedure for ‘career reasons’, who were judged more harshly for engaging with the technology than those doing so due to their lack of a partner. This chapter also demonstrated the key role emotive language and lexical choices, such as ‘regret’, ‘blame’, ‘fear’, and ‘warn’, as well as the ‘real life story’, played in the presentation of this technology and, in particular, how these techniques were central to the construction of several influential discourses about motherhood and reproductive timing. This included the responsibilisation of women to ensure ‘appropriately timed motherhood’ and noted how the obfuscation of the structural, relational and ideological factors which influence reproductive timing meant motherhood was ultimately constructed as something which women actively ‘chose’ to delay. This analysis also demonstrates the emergence of an alternative scapegoat for women’s difficult experiences when trying to ensure safe and timely childbearing: the biological clock and Mother Nature. In particular it was noted how the personification of the biological clock and Mother Nature meant that biological inevitability, and not gender inequalities, was blamed for the difficulties experienced by women when it came to timing childbearing and planning for motherhood. These newspaper articles also omitted any discussion of men in the timing of parenthood, positioning this decision as solely down to a woman’s ‘choice’.

This analysis has shown how the media, in this case newspaper publishers, plays a significant role in the production and reproduction of certain discourses about motherhood, reproductive timing and the ‘choice’ to delay motherhood. These discourses are part of the social context in which women made decisions about social egg freezing and thus constitute part of the domain of contextual resources as described by Layder.

The following chapters of this thesis will explore the findings of 31 qualitative in depth interviews with women who have undergone egg freezing for social reasons. They will include an examination of women’s attitudes towards motherhood, their motivations and experiences of undergoing egg freezing and a discussion of their future reproductive intentions. The findings of the media analysis and qualitative interviews will be brought together and discussed conceptually and theoretically in chapter nine.

## 6 Chapter Six: Timing motherhood

### 6.1 Introduction

This is the first of three chapters that presents the findings from the 31 semi structured interviews undertaken with women who had frozen their eggs or were about to begin the process of doing so. This first chapter also discusses the findings of the demographic questionnaire completed by the participants and provides a summary of the participant profile. Following this is an exploration of the participants' perceptions of motherhood. The next two chapters discuss how the participants described deciding to freeze their eggs (chapter seven) and explore the participants' accounts of the egg freezing process, how they felt after the procedure was complete and their current and future hopes and expectations with regards to motherhood (chapter eight).

This first findings chapter examines the participants' views about the 'right time' for motherhood and their perceptions of 'being ready' for motherhood. This chapter also explores women's desires for a particular male partner with whom to pursue parenthood and how women reported difficulties finding such a partner. Finally, this chapter examines women's perception of reproductive delay and how women's desire for a partner, coupled with the pressure of age-related fertility decline, could lead the women to engage in what I term 'panic partnering', and how for some their use of egg freezing technology was seen to prevent such actions. Pseudonyms are used throughout these chapters and any identifying information about the participants is removed.

### 6.1 Demographic profile of research participants: findings

The interviewees were mainly drawn from metropolitan cities in the UK and East Coast of America. The majority of the participants (n=23) were living in the UK at the time of the interview taking place, 18 of whom were UK residents from birth with the remaining four having come to the UK to work or study (n=22). A further seven participants were living in the USA or Norway and had been a resident of their respective countries since birth. At the time of undergoing the first round of egg freezing, the participants were aged between 32 and 44 and were on average 37 years of age (table nine). For most of the participants several years had elapsed between undergoing the procedure and taking part in the research. As such, at the time of the

interview the participants were aged between 34 and 49 and were on average 39 years of age. All of the participants identified as being heterosexual and at the time of freezing their eggs the large majority (84%) were single (table 10). All of the participants were educated to degree level, 39% also had a postgraduate degree and 29% held a professional qualification. Job titles were compared against the ONS Occupation Coding Tool and the National Statistics Socio-economic Classification to determine the interviewees' socio-economic status. This showed that (74%) of the participants were in professional and managerial roles. Fifty-two percent of the participants identified as holding a religious belief. The demographic profile of the participants reflects that found in other data sets (Gold et al., 2006, Knoppman et al., 2008; Tsafir., 2012) which shows that most women engaging in egg freezing are single, highly educated and predominantly in professional and managerial careers.

| <b>Mean Age</b> | <b>&lt; 35 years<br/>(%)</b> | <b>36-39<br/>(%)</b> | <b>40-44(%)</b> | <b>Range</b> | <b>Standard<br/>Deviation</b> |
|-----------------|------------------------------|----------------------|-----------------|--------------|-------------------------------|
| 36.9            | 7<br>(23%)                   | 20<br>(64%)          | 4<br>(13%)      | 32-44        | 2.58                          |

Table 9: Age at undergoing first cycle of egg freezing



|   | n  | %  |
|---|----|----|
| <b>Relationship status at time of oocyte freezing</b> |    |    |
| Single  | 26 | 84 |
| In a relationship                                     | 5  | 16 |
| <b>Educational status</b>                             |    |    |
| Undergraduate Degree                                  | 10 | 32 |
| Postgraduate Degree                                   | 12 | 39 |
| Professional Qualification                            | 9  | 29 |
| <b>Occupational status*</b>                           |    |    |
| Professional and Managerial                           | 23 | 74 |
| Intermediate  | 7  | 23 |
| Self employed   | 1  | 3  |
| <b>Nationality</b>                                    |    |    |
| British   | 18 | 58 |
| American  | 7  | 23 |
| Other   | 6  | 19 |
| <b>Religious Belief</b>                               |    |    |
| Christian   | 8  | 26 |
| Jewish  | 3  | 10 |
| Muslim  | 2  | 6  |
| <b>Spiritual</b>                                      |    |    |
| No religion   | 15 | 48 |

Table 10: Participants' demographic information. Devised using National Statistics Socio-economic Classification (NS-SEC rebased on the SOC2010) (ONS, 2010)  
<http://www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/soc2010/so>

## 6.2 Characteristics of egg freezing cycles: findings

The majority of the women (87%) froze their eggs in clinics and hospitals in their country of residence and the remaining four women underwent the procedure abroad (one in South Africa, two in Argentina and one in Thailand). Most (68%) of the participants underwent, or attempted, just one cycle of egg freezing (n=21), almost a fifth of participants also underwent a second cycle (n=6) and a smaller number underwent three (n=3) or four (n=1) rounds of stimulation. Following egg collection and freezing, women had between zero (due to a failed cycle of stimulation) and 62 eggs stored, the average number being 16. Only 23% of the participants (n=7) had undergone egg freezing whilst they were 35 years of age or under. Instead the majority (n=20) of participants were between 36 and 39 years of age at the time of undergoing the procedure and a further 13% (n=4) of participants were 40 years of age or above. This data reflects similar findings from US studies and clinical audits which have identified that women undergoing egg freezing are usually in their mid to late 30s (Klein et al., 2008; Knoppman et al., 2008; Sage et al., 2008; Hodez-Wertz et al 2013; Vallejo et al 2013).

| Number of eggs frozen | Number of participants |
|-----------------------|------------------------|
| 0                     | 1                      |
| 1-5                   | 3                      |
| 6-10                  | 6                      |
| 11-16                 | 8                      |
| 17-21                 | 2                      |
| 22-26                 | 1                      |
| 27+                   | 2                      |

Table 11: Number of eggs frozen by participants

| Mean number of cycles | Number of cycles of egg freezing attempted |     |     |       |      |
|-----------------------|--|-----|-----|-------|------|
|                       |  | One | Two | Three | Four |
| 1.48                  | N  | 21  | 6   | 3     | 1    |
|                       | (%)  | 68  | 19  | 10    | 3    |

Table 12: Number of cycles of egg freezing attempted

### 6.3 Perceptions of motherhood

The majority of participants felt a strong desire for motherhood and wished to pursue motherhood in the near future. For many of them, motherhood was something they had always expected to be part of their lives, with some participants reporting that they had experienced a strong desire to become a mother several years prior to engaging in egg freezing. For these participants imagining a future that did not include motherhood was highly distressing.

*I always wanted to be a mother; I mean always, my whole life! I've spent my entire life just hanging out with kids.*

*Jen 39, In a relationship, Non-Mother*

*I would be devastated if I couldn't be a mother, and I don't know how, yes I definitely need to deal with those sentiments because I haven't dealt with the idea of not being a mother. I would be absolutely devastated.*

*Hayley 38, Single, Non-Mother*

Whilst most of the participants reported being firmly committed to becoming a mother, around a fifth (n=6) of the interviewees disclosed more ambivalent feelings towards motherhood and some questioned whether it was something that they were sure they wanted to pursue. These participants were less convinced about the role motherhood would play in their lives and instead questioned whether their feelings with regards to motherhood stemmed from their own personal desires or from societal expectations.

*I have even thought recently: do I actually even want to have kids anymore? Am I just, are we just intellectualising this and leaving doors open because they are there and do I actually know that I want to have kids anymore?*

*Johanna 42, Single, Non-Mother*

*I really had to think about, well is this something that I just think I want to do because that's what I think I'm supposed to want to do, or do I actually want to do this?*

*Katie 38, Single, Non-Mother*

For these women, it appeared that egg freezing allowed them to retain the option of motherhood in the future should their ambivalent feelings change. This was particularly important for women such as Johanna and Katie who stated that whilst motherhood was not something that they currently felt a strong desire for, it was something they thought they might want in the future particularly should they meet a partner who wanted to become a parent.

*I came to the conclusion that I am actually going to know if I really, really, how much I want it when I meet that person. And I don't want to turn up to that party and not have anything to offer.*

*Johanna 42, Single, Non Mother*

*I think ultimately again I kind of fall down on the side of with the right partner I think this is probably an experience that I still think I want to have, but that's not to say that I don't have a lot of fears about it.*

*Katie 38, Single, Non-Mother*

The possibility of a living childfree was, however, less daunting for other participants who hoped that they could achieve fulfilment in their lives through other means. Instead what was most important for these women was keeping the option of motherhood 'open' in the future should their feelings or circumstances change.

*So I am in no hurry and if things didn't work and if I didn't have a kid it wouldn't be the be-all-and-end -all of life*

*Shu 39, Single, Non-Mother*

*I'm ok if I meet a person that has children and they do not want children. I would be ok with that, but I am not ok with giving up my option of choice*

*Charlotte 42, Single, Non-Mother*

This demonstrates how the users of egg freezing technology include not only women who feel a strong commitment towards becoming a mother in the future but also those who hold more ambivalent feelings towards, and are more reticent about committing to motherhood.

Several of the accounts reflected an expectation that parenthood, but especially motherhood, would be an experience that would require a complete reorientation and reorganisation of their lives. Many of the participants described how they saw motherhood as an all-encompassing emotional and physical investment often being associated with personal sacrifice and altruism. This expectation of taking on an 'intensive mothering' role had led women such as Holly and Olivia to doubt whether they were ready to become a parent.

*I moved around a lot in my life and I have really done whatever I have wanted to do pretty much and so in that way, not in a bad way, I have been quite selfish. I have only had to think about myself and I had never wanted to have children because I didn't feel like I could give enough of myself to them...I think what changed within me was that, that want to actually to give up perhaps what you wanted for the sake of someone else, that was the change.*

*Holly 38, Single Non-Mother*

*It [motherhood] inevitably it impacts your life massively, so today we got up at 9.30am and then we sat around in our dressing gowns for two hours and then booked a weekend away for next weekend and then we went to play tennis and so we couldn't have done those things with a baby.*

*Olivia 37, In a relationship, Non-Mother*

However, other women like Aleen described how they felt ready for motherhood in part because they believed they were willing and ready to leave behind their own desires and make what they saw as the necessary sacrifices motherhood required. They were willing to make these sacrifices knowing, or at least believing, that they would not resent such decisions in the future.

*I have travelled a lot. In the work I have done a lot of stuff, been to a lot of places seen a lot of things. I feel like I have experienced a lot of life so it doesn't bother me that I won't be out every Saturday night down the pub, so in that respect I kind of feel I am ready.*

*Aleen 35, Single, Non-Mother*

#### 6.4.1 The right time for motherhood

All of the participants stated that if they became mothers they would want to do so at what they determined to be the 'right' time. This notion of the 'right time' for motherhood was often linked to the notion of 'being ready' for motherhood, the discussion of which ran throughout the accounts. The 'right time' for motherhood was not linked to the best biological age for motherhood but was more commonly associated with being in a secure relationship with a partner who shared the desire to parent a child and was also linked to many other situational, social or personal factors. This included the completion of education, the achievement of personal independence and security and the acquisition of life skills and experiences.

*For me it's I have done a lot with in life. I have lived in a lot of places, most places in the world. I have travelled, studied. I have had interesting jobs. I have had a very full social life as well. I know I am at a point where I am ready to take it to the next level and I think from what I hear kids seem very rewarding but very tiring, but I am at a place where I am stable with personal finances and career is good and stable for now so everything seems to be in order.*

*Catrine 34, In a relationship, Non-Mother.*

Many of the participants identified the achievement of personal and financial security as important when considering motherhood and believed that this was best secured through

the acquisition of qualifications and by establishing themselves within their chosen career. It was also often suggested that by preparing in this way they were best able to provide their child a secure and stable home.

*I always knew that I never wanted to be in a position where I knew I would have to rely solely on a man for financial security and so, being career driven in that I always wanted to finish my education. I finished law school when I was 31 so I knew I wanted my education out of the way before I ever even considered getting married or having children.*

*Rae 39, Single, Non-Mother*

*It helps once you have been in a profession you have that in place, as otherwise you would be always nervous about not being able to provide that for yourself. So yes there should be a couple of steps that you should have reached, obvious ones really: get a degree and feel some level of stability. But then there is also the question of personal growth, being ready and saying you know now my own personal life is ordered enough to impose that on a child.*

*Helena 37, Single, Non-Mother*

All of the women had achieved some success and security in their professional lives. Many were financially stable, had travelled and become emotionally ready to commit to motherhood. However, what the participants reported as 'absent' from their lives was a suitable partner with whom they could pursue parenthood. The importance of pursuing parenthood with the right partner was reflected across all the accounts. This notion of the *right* partner was particularly significant and appeared integral to the performing of parenthood in the way they envisaged or had hoped.

*For me it's not about children, it's about having a family. It's about what does children mean. It's the result of love, not the result of a sexual act, and for me it was very important to choose the right partner as you can go and have sex with anyone tomorrow but it wasn't, but for me it was being able to take my time to choose the right person rather than, just you know find somebody to have sex with and have a child.*

*Lindie 34, In a relationship, Non-Mother*

*I believe in having, if at all possible, in having a nuclear family and having two parents, even if you are not married just having two parents in a stable loving household to bring them up in*

*Hayley 38, Single, Non-Mother*

For many participants, the right time to become a mother was when they had achieved the preconditions as described above but more importantly when they were part of a strong, permanent heterosexual relationship with a male partner who was also 'ready' and eager to pursue parenthood. As several women noted, the possibility of pursuing parenthood with either the wrong partner or without the male partner's 'buy-in' was seen as foolish and unlikely to produce the family unit the women desired.

*I think it will be a strange thing to do to get pregnant, you know, without really your partner's buy in, it would be foolish in my view to do that. There are women who stop taking the pill and don't tell their partner, or you know other devices to get pregnant without their partner quite realising that that's what was happening. I just think that's foolish, you know. It's a real two person job bringing up a child. Myself and my partner have now, you know, been at home together for the first three months, he has been off work as well, and with two people together it's been fantastic, but I can't imagine having to do it on my own. I mean it's hard enough work when there are two of you, it must be virtually impossible when there is just you*

*Emily 44, In a relationship, Mother*

Whilst all of the participants had been in relationships with male partners in the past, a few of which were serious and spanned several years, the women reported that they had found it difficult to find a male partner as equally committed to parenthood as they were. Instead, several reported that they had encountered negative attitudes from men with regards to settling down and pursuing parenthood

*Most people down here, they don't want to commit. It's very difficult to find someone you know that actually wants the same things as you want and I think that is part of the struggle*

*Charlotte 42, Single, Non-Mother*



*I have found men to be real commitment phobics, they are happy to wine and dine but as soon as a year or so has passed into the relationship...they are all like it and I have heard it from so many women.*

*Mary 49, In a relationship, Non-Mother*

*On the night of my thirtieth birthday, and I was married at the time, and my husband and I went to a fancy dinner and I said at the dinner table, I was like ok, I'm ready to have a family. He just completely freaked out and he was like, oh my god, I'm so not ready...And I said well when are you going to be ready, you know, give me a sense, like is this ok 2 years from now or something like that. He said I don't know and the more you ask me the less willing I'm going to be to talk about it. And that was kind of the beginning of the end of our marriage.*

*Jen 39, In a relationship, Non-Mother*

The perceived disparity between men and women's attitudes towards commitment and parenthood was sometimes attributed by the participants to the double standard in reproductive ageing that allows men a greater window of time in which to reproduce compared to women, and therefore afforded men more time to 'play the field' prior to settling down in a long term relationship. It was also suggested that this inequitable biological difference actually went against women in the context of the modern dating arena, who felt that they were likely to be perceived by men as 'desperate' for a child and as such men would not want to pursue relationships with them.

*Women complain at the moment that they have this fertility barrier that men don't, and so in the context of internet dating you have a load of women in their late 30s and the guys their age want to meet women who are 5 or 10 years younger and the women feel very resentful...if someone is scrolling through a load of profiles they will look at 38 year old woman that doesn't have children and think 'she will want kids, NEXT!' I think so, so you feel like you're fairly disadvantaged with an advert over your head saying 'in final years of reproduction'.*

*Olivia 37, In a relationship, Non-Mother*

Despite not yet being mothers, being ready, or even being sure they wanted to become a mother, the majority of these women had very clear ideas about how they would want to 'do motherhood'; under what circumstances; with whom and when; and were committed to 'doing motherhood properly', as they saw it. 'Proper motherhood' was perceived as with a committed partner who wanted to become a father and who would be engaged and active in both the woman's pregnancy and the upbringing of children. However, several participants noted that the desire to 'do motherhood' in such a way was perhaps problematic.

*I think maybe through one wanting to do it properly you actually make it so difficult and you can't actually do it, you make it too difficult*

*Johanna 42, Single, Non-Mother*

*I suppose I think to myself that's the best way to be a mother, to be in a stable relationship and be financially secure and be able to provide for your child. I do sometimes look around me on a bus or whatever and think oh my god everyone has got children and they haven't bothered getting a career or trying to earn enough money or have a nice flat, they are just getting on with it.*

*Hayley 38, Single, Non-Mother*

Therefore, for many of the women the desire to do motherhood properly, at the right time and when they were ready meant that motherhood had proved to be elusive.

#### **6.4.2 Perceptions of older motherhood**

The majority of participants were 35 years of age or older at the time of the interview and would be regarded as an older mother should they become a parent in the future. Despite media portrayals of older mothers as deviant and undesirable (Shaw and Giles, 2009; Budds, Locke and Burr, 2013), very few of the participants perceived 'older motherhood' as problematic. All of the women suggested that motherhood at an older age would be beneficial to both themselves and their future offspring. As such it was common for the participants to extol the benefits of older motherhood, often with reference to the increased amount of resources they felt likely to have at their disposal compared to a younger woman.

*From a personal standpoint do I think I have got the ability now to care and financially look after a child and to give it the best start in life with all the things I would want it to have? Absolutely! Could I have done that in my 20s?*

*Aleen 35, Single, Non-Mother*

*I know for me, just to be honest with you just from a financial standpoint where I feel like where I'm at financially, it gives me the ability and the freedom to have a lot more options when having a child.*

*Charlotte 42, Single, Non-Mother*

Some of the participants suggested that whilst they may have less energy than a younger woman, their age meant they were better emotionally equipped for the commitment that motherhood required and they would not feel they were missing out on other life experiences as a result of becoming a mother. Being older had given them not only a good financial standing but more wisdom and patience, which they saw as important characteristics for mothers.

*I think I am probably emotionally in a better state to raise kids at this age than what I would have been if I was younger. I think I have more financial stability now finally and I don't have that feeling like, if I have a baby and I can't go to a party for two years who cares*

*Claudia 41, In a relationship, Pregnant*

*Because I am 41 I have travelled enough I would be happy if I didn't have a foreign holiday for the next 10 years. I earn substantially more money than I did when I was 31, I have got a lot more patience that I had when I was younger and I feel I have gone out enough, been to parties. I am really quite ready to change my lifestyle to have a child rather than feel any resentment about that*

*Patricia 41, Single, Pregnant*

Many of interviewees suggested that having children at an older age actually conferred many advantages and was preferable to younger motherhood. Furthermore, a number of the participants also noted how first time motherhood at the age of 35 or older was considered 'normal' in their particular social circles.

*Living in an area like this you see so many yummy mummies in their forties walking around. [Local area name] is the total yummy mummy area. If you walk down towards the park the place is just dogs and yummy mummies. And you see so many women who look much older than me as parents, so you feel the norms have changed a bit. And while medically I might be considered an older mother I wouldn't consider myself to be an 'old old' mother, I am just an average mother.*

*Hayley 38, Single, Non-Mother*

*Most of my friends had kids when they were older than 35 so it doesn't really bother me.*

*Holly 38, Single, Non-Mother*

However, despite its benefits a number of the participants felt that there were negative connotations associated with older motherhood and identified what they believed to be a 'double standard' in the way in which older motherhood and older fatherhood was discussed in media discourse, as Amber stated:

*I find it really sexist. It makes me really angry actually, because you can be a man and be 80 and what is it Michael Douglas with his children, that's perfectly acceptable but its gets, the press can be almost quite venomous actually in terms of older mums*

*Amber 39, Single, Non-Mother*

*Also men right, they can have kids when they are 70, and it's also interesting how they get almost applauded when they...ohhh you buy them a drink at the bar right. If a woman had a kid at 40/45, it's like 'oh she is so old how is she going to do that'. I think that that is very discriminatory*

*Catrine 34, In a relationship, Non-Mother*

#### **6.4.3 'Women's perception of 'delaying' motherhood**

When asked during the interviews if they felt they had deliberately delayed motherhood, participants stated that they felt that motherhood was not something they had avoided or

put off, but rather they had yet to be in a position where they were able to pursue motherhood.

*I wasn't ready till now so no I don't think I delayed, it's not been a conscious decision to delay. I never actually looked at it as delaying it, I am more thinking I have just not got into the right space yet*

*Aleen 35, Single, Non-Mother*

*I mean for me it's important to say it's not a selfish thing about putting off motherhood. If I had been in the right place and the right time in my mid 20's I would have got pregnant but you know life doesn't work like that and you know I think it would have been more selfish to have a baby when you are not with the person you wanna raise that child with*

*Livvy 37, In a relationship, Mother*

To some of the participants, such as Aleen, delayed motherhood was more meaningfully understood as deciding not to become a parent in circumstances where parenthood was an option, where the right situation and right time for motherhood had come together:

*I think I would think more delaying it if I was with a partner and we thought for socio-economic reasons or whatever we are going to go travelling go and live somewhere else and thought right ok we don't want children yet so we will freeze our eggs and have a go in maybe two years' time. To me that would be delaying it as I could do it now in the way that I want but I am choosing not to, but the way I look at it for me I can't do it now although that I want to, therefore I am just, it's not delaying it its protecting my ability...that's probably the way I am looking at it differently, so it's not like I am taking it for social reasons to delay and if I had a partner that I was stable and happy and in love with I would have children soon, like in the next year, if I thought that it would work out so I don't think I am delaying it.*

*Aleen 35, Single, Non-Mother*

Many of the participants stated that they had not made an active choice to avoid motherhood, and had not prioritised other parts of their lives over motherhood, but

instead stated that they had never been in the situation where they felt motherhood was a viable option.

*I don't think it's a choice that I have made....Well (laughs) ok devils advocate, ok it's a choice I have made because I have chosen not to be with certain people. I have made the choice of wanting to be with someone that I want to be with or that I see as someone I can have that relationship with. I have chosen to create this idea of my perfect relationship to do that. But it's not like I have been in a situation where I have been in a great relationship where everything has been comfortable and I have gone oh actually no this year I want to have a holiday, I want to buy another house, I want to do something more with my career.*

*Johanna 42, Single, Non-Mother*

This was often because the way in which the participants wanted to 'do motherhood' at the right time, with the right person, was not possible, usually due to the absence of a suitable partner. The participants' desires generally mirrored normative expectations around motherhood and reflected social values of the family, supportive parenting and the ideology of intensive mothering. What had prevented women becoming mothers in many cases was, as Johanna states, the inability to:

*Marry up the idea of what that situation should be like to actually form that relationship, that basis, that foundation.*

*Johanna 42, Single, Non-Mother*

Aleen made a similar point when she talked about doing motherhood in 'the way that I want'. For these women there was a disjuncture between the conditions they felt were 'right' to pursue motherhood and their own personal circumstances. These desires also appeared to reflect the actions and behaviours of those around them, as Hayley commented:

*Most of my friends have got children, or a lot of them have, 70-80 percent, and they have generally done it in a traditional way, where they have met someone, got married and then had children. I suppose it influences you what your friends around you are doing and what they have done and I suppose I think to myself that's the best way to be a mother, to be in a stable relationship and be financially secure and be able to provide for your child.*

*Hayley 38, Single, Non-Mother*

It was apparent that many of the participants felt their current childlessness would be perceived by others as an outcome of personal choice. Several of them discussed the ways the media represented women like them as choosing to delay motherhood for career reasons. As a result, a large number of the women were keen to convey that their working life or career had not influenced their decision making regarding motherhood.

*I think the media really misrepresent women who have children later. I don't know a single woman who has put off having babies because of her career, not a single woman I have ever met has that been true for, the women that I know that don't have kids is because they have not got the right partner.*

*Patricia 41, Single, Pregnant*

*I wouldn't say it was my career which kept me from it. I would say there was never a moment, from say the moment I turned 30, where I have been in a relationship that have been strong enough to say ok let us consider that.*

*Helena 37, Single, Non-Mother*

Sofia offered an alternative explanation for the suggestion that 'career women' delayed motherhood. She proposed that career success or development was not a cause of delayed motherhood, but rather an outcome of not being in a relationship or having a family.

*I think a lot of women have succeeded in their careers because they haven't found a partner and they haven't had children, and therefore they have all the time in their hands to focus on their careers. So that's more a consequence than a cause. I think that that is at least what happened to me.*

*Sofia 39, In a relationship, Non-Mother*

The experience of being single, or not in the position to pursue motherhood, was identified by a number of the participants as sometimes being due to factors which they perceived as outside of their control. For several of the participants their non-mother

status was in part due to the amount of time they had invested in relationships with men who were unsure whether they wanted to be fathers. A smaller number of the participants also stated that other, more structural, factors had influenced their thoughts regarding planning for motherhood, in particular concerns they had with regards to combining motherhood and employment. Two of the participants commented that they were unsure whether it was the 'right' time for them to be considering motherhood due to contractual and maternity issues.

*Well I am on a probation period at the moment for 6 months. I started my job in January and yesterday we had a kind of, actually my boyfriend is here at the moment then he is going away again, and we had a sort of actually 'shall we try and get pregnant now' conversation and he said well if you got pregnant now it would be obvious that you were pregnant. I said yes it probably would and he said well you have to think of the consequences of that as they may choose not to give you a contract after that...people think that that stuff doesn't happen anymore but it happens all the time, definitely in small companies.*

*Olivia 37, In a relationship, Non-Mother*

*The reason why I was looking at having a child now or look into it is because I have been in my job for 9 months now, so in terms of maternity I qualify, but it's really poor what they give you, it's like 6 weeks full pay then statutory so I was not thrilled with that. So that would be all I would get anyway. However, now I have been made redundant I will probably be better off getting another job anyway. I think you have to work somewhere for a certain amount of time before you qualify for maternity pay.*

*Lacey 40, Single, Non-Mother*

One further participant, Melanie, suggested that she might consider trying to become a mother in a few years' time so she could make the most of the employment opportunities she currently had available to her, which she anticipated might be fewer in number after she had a child.

*Being an actor you work for so many years and for women their age is such an issue as there aren't that many parts for women in their 40s, there just aren't. Never mind minority women getting close to their 40s. So also I would, or say I did have a*



*partner at that time, I still wouldn't have thought maybe I can push it a couple more years to see how much further I could get.*

*Melanie 36, In a relationship, Non-Mother*

#### 6.4 Lifecourse expectations and experiencing a 'life unexpected'

As described above, the majority of the participants felt a strong desire to become a mother and all of the participants stated that they sought to be in a secure relationship with what several of the participants referred to as 'Mr Right'. The majority of the women (n=26) were not in such relationships at the time of freezing their eggs, nor at the time of the interview taking place (n=20). Whilst all of the participants had had relationships in the past with male partners, several of the women stated that they were surprised that they had been unable to form a lasting relationship leading to motherhood, with some of the participants describing the emotional challenges and confusion associated with 'still being single' in their late 30s or early 40s.

*I found not being in a relationship really difficult to adjust to, it took me I mean about a decade to accept that fact...just for years and years I got really frustrated and I couldn't understand why it was happening for everybody else and not me.*

*Leona 39, Single, Mother*

*I always lived a really moral life. I've been, you know, (voice quivers) to me I think I'm a catch you know, low baggage a lot of good things going for me, good family values and that stuff. It's no different, and obviously you're a young woman, you know the feeling when you yearn for love and you do go through that, that feeling you know, and it's hard and this is a really hard age for me to feel like that*

*Charlotte 42, Single, Non Mother*

This was because, for many of the participants, the expectation of meeting a partner and having the opportunity to pursue motherhood formed a central part of their anticipated lifecourse.

*You just assumed that, you know, you get married, have babies and that's the end of it. But you don't really think about how it actually works and what may be the potential barriers to that happening.*

*Rachel 34, Single, Non-Mother*

*I just assumed when growing up that I would easily find somebody who wanted to marry me and we would have as many children as we wanted and you know that was just the complete assumption I made. So it was a real shock and a real adjustment which took years of adjusting.*

*Kanta 41, Single, Non-Mother*

However for many of the participants these firmly held expectations did not reflect the path their own lives had taken and instead the participants found themselves 'off course' from their own anticipated trajectory.

*I had my ideal person, my ideal job, the age I was going to be having a baby I had it worked out but none of it had actually come to fruition.*

*Aleen 35, Single, Non-Mother*

The suggestion that lives had not 'worked out' the way they had planned was a common theme in the participants' accounts, with many of them remarking that they never expected to be without a partner at their current stage in life.

*So I think in my 20's I was really excited for what was coming but unfortunately it didn't happen... I never even thought about this issue at 25, I thought life would work out.*

*Charlotte 42, Single, Non-Mother*

*I didn't plan life quite, I didn't expect to not have a family and be single at this age*  
*Rachel 34, Single, Non-Mother*

This led several of the participants, such as Leona and Johanna, to express confusion about how they came to occupy such a position and question how they had 'come off course' with regards to the path they had expected their lives to take.

*You start wondering why you are in this position, how this happened. Because, I don't consider myself to be the person who is at the bottom of the tree... I am*

*attractive, fit, fairly intelligent person, cultured person. How is it possible I don't have a partner? How has that happened?*

*Johanna 42, Single, Non-Mother*

As well as the anticipation of forming a stable and secure partnership, several participants also expressed how becoming a mother had been both an implicit expectation they held for themselves, but also an expectation that others expected them to live up to.

*I am from an Indian background and the traditional thing to do is to get married when you are younger, but I never followed that route.*

*Kanta 41, Single, Non-Mother*

This led a small number of the participants to suggest that their non-adherence to these normative expectations led to stigma and social pressure as well as the sense of being 'behind' compared to their peers; many of whom had met a partner, married and had children.

*I guess I consider myself a late developer in various areas of my life. I still haven't found a bloke, all that sort of thing, and I am now 38.*

*Hayley 38, Single Non Mother*

*I think I felt I feel a little bit of shame about the whole thing and I was thinking about that, and I was like why do I feel this way, and it's really I think it's a societal issue. When you are in your mid 30s and you are not married everyone's like: what's wrong with you?*

*Melanie 36, In a relationship, Non-Mother*

The pressure to achieve the 'ideals' of marriage and motherhood was particularly felt by Kanta and Preeti whose religious and family backgrounds meant their non-adherence to such a lifecourse was highly visible and contrary to the expectations of their extended family and communities.

*There is a biological and a social imperative as well where you feel like you haven't done the normal thing if you don't have kids.*

*Kanta 41, Single, Non-Mother*

*But I think there is a stigma attached to it isn't there? Especially in the Asian background, it's like 'well your daughter is not married why is that?' kind of thing. Even though I am not the only one but there is that stigma to them attached to that.*

*Preeti 37, Single, Non-Mother*

As a result of both their own, but also others' expectations about the normative lifecourse progression from marriage to motherhood, several of the women expressed feeling like a 'failure' for their lack of a partner or for not yet being mothers. This perception of being a failure was often despite women being aware of and proud of their own achievements in work and other aspects of their personal lives.

*I feel a lot like I am a failure, but I am not because I have a really good job. I have got lots of friends. I have kind of travelled the world. But on another level I am, like I don't have a partner, I don't have children, so you are a failure.*

*Aleen 35, Single, Non-Mother*

*You feel guilty anyway, or that you have failed anyway, because you haven't met your life partner and had children. Even if it's not explicit, and my family never made me feel like what are you messing about at, you know you're not settling down like your friends, but masses of unspoken social pressure all the time...well I felt there was anyway.*

*Olivia 37, In a relationship, Non-Mother*

When faced with the unanticipated situation of being single or unmarried in their late 30s and early 40s a small number of participants reported that that they had begun to question the previous decisions they had made.

*I can fall into patterns of thinking like why have you found yourself here? Did I do something wrong? Is there something wrong with me? Did I make bad decisions? Is this my fault? Like am I not going to get what I want now because I made decisions in the past I shouldn't have? Should I just have married that guy?*

*Katie 38, Single, Non-Mother*

However, despite the presence of moments of self-doubt and fear, most of the participants demonstrated clear resolve and commitment to pursuing relationships and motherhood. As a result, none of the participants expressed regret that they had not pursued motherhood with a previous partner as they still sought to 'do motherhood' in the idealised way. Such a belief and commitment enabled the women to maintain a sense of confidence, power and control over the direction of their lives.

*I guess it's kinda twofold: you are single and in your mid 30s which I'm fine with, but I get a lot of flak from a lot of people like when are you gonna get married. And I'm like I'm not going to marry some Joe-Schmo off the street, I would prefer to have a good relationship!*

*Melanie 36, In a relationship, Non-Mother*

## 6.5 Awareness of age-related fertility decline

Several of the women felt prior to freezing their eggs they had had poor knowledge of fertility, age-related fertility decline (ARFD) and awareness of the efficacy of assisted reproductive technologies. When discussing their awareness of ARFD prior to undergoing egg freezing, the majority of the women stated that they had some awareness and knowledge. However, a small number of participants disclosed that they knew very little about their fertility, its limits and its relationship to age. Furthermore, these participants commented that when they did begin to learn about the realities of ARFD either through other women, online, or through fertility specialists, they were shocked by the facts as they related to themselves.

*It was shocking for me, my knowledge was very, very minimal and I thought that anyone could really have a baby until they were about 55. I knew that fertility was affected because I had heard so much about it but I didn't realise how drastically your chances of having a baby are reduced. I thought it was about 10 or 20% but when they told me the figures and the facts I was actually on the verge of iving up.*

*Mary 49, In a relationship, Non-Mother*

These women described having some limited knowledge of ARFD, but stated that their knowledge was insufficient or lacking in depth. It was common for these women to be

aware that fertility declined with age, but to be unaware of the time or rate of this decline.

*It was new information to me, I knew there was more chances for birth defects after a certain age ...but I didn't know they took such a nosedive after age 35, those are things I didn't educate myself on.*

*Catrine 34, In a relationship, Non-Mother*

A number of women also suggested that they felt that they were not aware of the factors which affected their fertility in both negative and positive ways. This issue was highlighted by Kanta, who was employed as a medical doctor at the time of the interview.

*I definitely think women should be educated more as I didn't have a clue really about fertility, only knew it drops after 30 and again at 35 but I hadn't appreciated how your eggs can be destroyed by so many different things and about how your reserve is affected by so many different things and factors such as alcohol ... We are not educated about that sort of thing as girls.*

*Kanta 41, Single, Non-Mother*

As a result, many of the participants felt that women needed to be educated earlier and more often about fertility and the realities of ARFD.

*I definitely think that women need to be made more aware of that because, you know, in this day and age people are getting married and having children so much later in life and then really struggling, and I think if they were mindful of it then they might make different decisions, so I think it should be more widely made known.*

*Leona 39, Single, Mother*

*I think women are ignorant about their fertility and I think if I had known what I knew now I would have done something much earlier. I think women, they know something about the age 35 but I don't think they realise how drastically it drops.*

*Mary 49, In a relationship, Non-Mother*

Women disagreed about how this knowledge should be disseminated with some of the participants, suggesting this should be within the purview of healthcare professionals such as gynaecologists and general practitioners.

*I think is really disturbing to me is that a woman we all go to the gynaecologist and they ask you everything about your sexual history ... but no one will ever ask you do you want to have your fertility tested, which is a really important thing to educate women on.*

*Charlotte 42, Single, Non-Mother*

*And I think one of the main reasons is because doctors, general practitioners, who does your PAP smear when you ask about birth control doesn't dare go on the flip side, for fear of offending, asking about your fertility plans, what do you think, when do you think you will have children. It's kind of like a feminist backlash reaction that they are afraid, when it's really they are trying to look out for your health in a holistic way.*

*Mabel 42, In a Relationship, Pregnant*

Others suggested that it would be better achieved through general awareness raising.

*It's a change of mentality. I don't think it is a doctor's role. I have a friend who visited a doctor recently, she was 37 and he said oh have you thought about your fertility and she said she felt insulted, she felt how dare you remind me that I am single and that my eggs are dying. I think it is very much a cultural change.*

*Sofia 39, In a relationship, Non-Mother*

*There are a lot of ways the public can be informed of things, whether that is such things like what you are doing, you know more in depth studies about what this is all about, why it is important and more media coverage. I suppose just like a raising of awareness.*

*Holly 38, Single, Non-Mother*

Whilst many women advocated for better education and awareness of ARFD it was noted by Emily that, whilst being more informed about the facts of fertility may be

useful to some women, for those who were single or who were yet to be in position to have a child such education and information would not necessarily help them make any 'better' choices.

*But you know, it was all about meeting the right guy, so as much as you can be aware of your declining fertility, if you haven't met the right person there are few options for having a baby other than doing it on your own with donor sperm.*

*Emily 44, In a relationship, Mother*

In addition to describing feeling they had low levels of knowledge regarding ARFD, a small number of women suggested that they had previously believed assisted reproductive technologies to be much more effective than they actually were.

*I have become aware of some really shocking statistics especially once people reach 40, their chance of IVF succeeding 5% which is just ridiculous...I always assumed that once you decided to have children, I always thought that IVF was much more guaranteed than it is.*

*Leona 39, Single, Mother*

A final issue which several of the participants identified as relevant in the debates surrounding ARFD was the projection, by celebrity women, that motherhood in a woman's forties was easily achievable. These participants stated that images of celebrities having children at an advanced age gave the wrong impression and misled women about the limits of their fertility. This led them to suggest that more transparency and honesty was needed about the realities of conceiving after 40 and the efficacy of assisted reproductive technologies.

*You see in the media all these actresses and stuff having babies at like 47, you know 49, but what a lot of people don't realise is that they are probably using donor eggs and it makes it look like it is so much easier than it is.*

*Charlotte 42, Single, Non Mother*

*There is this huge media presence about this, particularly women over 40 having babies. There needs to be much more realism out there, it's not that easy I mean most women in their 40s will be going with donor eggs.*



*Kanta 41, Single, Non-Mother*

## 6.6 Panic partnering

The desire to 'do motherhood' in a certain way demonstrated by the vast majority of the women often meant that women were unwilling to compromise on their ideals when considering relationships. The time sensitive nature of this decision meant that many of the participants felt under pressure to meet a partner as soon as possible and several women shared a fear that their concerns about possible future infertility may lead them to compromise on their own expectations and desires when choosing a partner. Such a situation was something many wished to avoid.

*That takes an awful long time, so unless you are just going to take the next man you meet there is a lot of pressure on to try and find that person and it's not that easy thing to do and perhaps you end up trying to compromise on what you are after which isn't really part of who I am.*

*Holly 38, Single, Non-Mother*

This fear of compromising when it came to finding a partner was commonly expressed by the participants, something I have termed 'panic partnering'. Several of the participants identified how, even if they entered into a new relationship, they believed they would still need time for that relationship to develop and mature before considering embarking upon parenthood.

*It's very hard when you are at an age when you really should be with someone or meeting someone and realising how long it would be, even if you met someone tomorrow, before you would actually settle down and get to the point of being able to agree to have children*

*Holly 38, Single, Non-Mother*

*I think you just need to have been with the person long enough, you need to live together, ideally you are going to be with this person for you know the next 20 years or if not the rest of your life, you can't always know that in the first 6 months.*

*Emily 44, In a relationship, Mother*

A smaller number of the participants also commented that even if they were ready for motherhood they were aware that their new or current partner might not be, which would mean waiting longer before trying to conceive.

*My brother in law and I had a talk about a month ago and he was good about it, you know that male perspective, and he said even if you do meet someone they may not be ready to have a child. And you may meet someone, even after 6 months a year they may not be at that stage either, so he had some good advice.*

*Claire 41, Single, Non-Mother*

*Even if I met someone at like that second you need to get to know them to date them and it felt like I was, I was running out of time and I didn't want to choose to be with someone just because I wanted to have a family...If you choose to be with someone just to have a family, I know that women who have done that and they have been very unhappy and have ended up getting a divorce later.*

*Melanie 36, In a relationship, Non-Mother*

Several of the participants stated that they believed they had seen friends or family members 'panicked' into relationships with men by their 'biological clock' which they would not have otherwise entered into if they had had more time.

*I have friends who hit 30 and I absolutely know they just got together with a guy just to have kids because they had a drive, because all they wanted to do was have children, and with their last boyfriend it didn't work out so they were just looking for anyone*

*Aleen 35, Single, Non-Mother*

Furthermore, it was suggested by several participants that they were aware of women who had pursued relationships with men to avoid unwanted childlessness, only to regret entering into the relationships later when they ultimately broke down.

*I have spoken to women that told me that they went ahead with a relationship despite knowing that they didn't really love the person that they were with, but they wanted*

*to have children and yes they have the children but that relationship resulted in divorce.*

*Ellen 45, Single, Non-Mother*

The participants were therefore keen not to make the same mistakes.

*I don't believe in having pressure and I think probably people put a lot of pressure on themselves when people are getting to that stage in their lives, where they think well I might only have a few years left, and I just didn't want to do that. I didn't want to end up with the wrong person for that reason.*

*Effsie 40, Single, Non-Mother*

*I know that these days there are a lot of women that just decide oh my god I am in my late thirties I am just going to try and get pregnant with the next person that I meet. Whereas I suppose I am a conservative at heart and just didn't want to do that.*

*Hayley 38, Single, Non-Mother*

However the time pressure that these women were exposed to meant that it was becoming increasingly difficult for them to avoid 'panic partnering' themselves. It was hoped that the use of egg freezing technology would allow more time to make the 'right' decision when choosing a partner and to avoid age-related fertility decline and achieve motherhood.

## 6.7 Summary

This chapter, the first of three which presents the findings of the semi-structured interviews, explored the participants' attitudes towards motherhood. It demonstrated that, whilst many women felt a strong commitment to the motherhood role, a smaller proportion of women were more ambivalent about becoming a mother. This chapter also explored the participants' perceptions of the right time for motherhood, an issue which was considered and discussed at length during the interviews and reported how women commonly framed the right time for motherhood not as occurring at a particular age, but when a women felt 'ready' to become a mother: a factor often related to the acquisition of several preconditions for motherhood such as a stable job, income and

suitable home. However, of central importance was the presence of the 'right' man with whom to have a child. The right man was a committed partner who was also 'ready' and eager to pursue parenthood. However, for many of the women, the desire to 'do motherhood' 'properly' at the 'right time' and when they were 'ready' meant that planning for motherhood and becoming a mother had proved to be elusive. As such these women described how they had come 'off course' of their presumed lifecourse expectations.

Finally, in addition to noting how the concept of 'delayed motherhood' for career reasons did not reflect any of the participants' experiences, this chapter also discussed women's concerns about 'panic partnering', which was seen as the adoption of undesirable relationships in the quest for motherhood: something that women hoped egg freezing would enable them to avoid.

The following chapter will discuss how the participants made the decision to undergo egg freezing, will examine the deliberations and ambivalences these women held towards the procedure and will explore in detail the factors that motivated the participants to engage with egg freezing technology.

## 7 Chapter Seven: Considering egg freezing: managing hope and risk

### 7.1 Introduction

The previous chapter discussed women's perceptions of motherhood, their desires regarding how they wished to 'perform' motherhood and ideas about reproductive timing. This chapter will examine how the participants described making the decision to freeze their eggs and will explore the deliberations and ambivalences associated with this decision. It will examine how women identify and assess the various risks associated with egg freezing and describe the risk management strategies they employed. This chapter will also provide an in depth description of the factors that motivated the participants to freeze their eggs and will explore what women wanted to achieve by undergoing the procedure.

### 7.2 Considering egg freezing: Initial ambivalence

For most of the participants, the decision to engage with egg freezing was not a simple or quick decision but was often the result of much deliberation and thought. Several of the participants stated that they had been aware of the availability of egg freezing, in some cases for several years prior to engaging with the process, but had ambivalent about undergoing the procedure. This research identified several reasons for this hesitation that highlight how, for many, egg freezing was not something the women wanted but was instead something they felt compelled to engage with.

One of the reasons for women's hesitance was the historically low success rates when eggs were frozen using the traditional 'slow freeze'<sup>20</sup> method. This, combined with the experimental status of the technology, had led women to initially reject egg freezing. For these women, it wasn't until they learned of the technological improvements made through vitrification that they reconsidered egg freezing.

*So I just never thought the procedure was good enough. I did read about it like when I was younger but I, everything was like so many of the eggs get damaged in the*

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<sup>20</sup> Slow freeze-see glossary

*process of thawing and they didn't have the same techniques so it really wasn't until like I said almost a year ago that I looked into it you know.*

*Charlotte 42, Single, Non Mother*

*At the stage I started researching and I found out that the technology was such that although some women were having this done that the technology for freezing would not be likely to yield good results so I kind of let it go for a bit and thought oh well, you know. And when I was around late 39/40 I thought oh I will have a look into this again and I read that in Japan they had developed a new technology around egg freezing and I thought oh that's good...I thought oh I will go and have a talk with some people.*

*Ellen 45, Single, Non-Mother*

A further issue which helps understand the participants' reluctance was the fact that all of the women were still hoping to meet a partner and were therefore hoping that they would not 'need' to undergo the procedure.

*You just think it's other people that need that sort of thing, it's not me and I will meet Mr Right and I will do it normally like everyone else.*

*Hayley 38, Single Non Mother*

*I looked into egg freezing when I was 36 as it is the sort of thing that people talk about but I hadn't known anyone that I had done it and when I looked into it I sort of thought that it seems like a lot of money and I am still quite young and I have still got a chance to meet someone so I sort of just let it go.*

*Patricia 41, Single, Pregnant*

This meant that several of the women delayed undergoing the procedure whilst they were searching for a partner and it was only when several more months or years passed, and where the option of having a child naturally with a partner began to appear less likely, that they decided to undergo the procedure.

*I didn't think that would appeal to me because I was thinking oh yeah everything will work out and I have plenty of time and I don't need to stress out about having kids at*

*all, and then it was a few, three or four, years later this was something for me to think about*

*Catrine 34, In a relationship, Non-Mother*

*I think I just wasn't motivated enough given that there was still plenty of time at that point to have it happen more naturally, I just wasn't motivated enough to invest the time and put my body through that when I was that young. It wasn't really until I turned 37 and, you know, I felt the door a little bit closer to closing.*

*Katie 38, Single, Non-Mother*

This was because for them engaging in egg freezing could be seen and experienced as an unwanted recognition that their life had not gone the way they had anticipated and that, as a result, they were having to plan for an alternative lifecourse. Such a trajectory could be one which may not include motherhood but, if it did, would almost certainly involve older and perhaps single motherhood. Therefore whilst some of the participants hoped that undergoing egg freezing would mean that they would not have to make immediate compromises about how, and with whom, they wanted to 'do motherhood', their use of the technology was nevertheless an indicator that they still might have to pursue motherhood in currently unforeseen and undesirable ways. This might include single motherhood and motherhood via sperm donation.

*I didn't think I would be doing it with some total sperm donor and I wasn't ready to make that choice at the time so it didn't make any sense. The only thing that made sense to me was freezing my eggs.*

*Jen 39, In a relationship, Non Mother*

### **7.3 Considering egg freezing: risk and risk management strategies**

When deciding whether to undergo the procedure, the participants reported considering the potential financial costs as well as the several forms of risk posed by engaging and not-engaging with the technology. What follows is a discussion of how participants constructed the risks of egg freezing, how they reported assessing and managing these risks and how the idea of risk influenced their decisions about egg freezing.

#### **7.3.1 Costs and risks associated with undergoing egg freezing**

The costs identified by the participants included the financial outlay when paying for the procedure as well as, for some of the participants, other costs associated with preparing for the procedure. For example, Johanna was a freelance personal trainer and in order to prepare her body for the stimulation process she had to reduce the numbers of hours she engaged in strenuous activity and thus had to reduce the number of hours she worked. The cost of undergoing the procedure varied depending on the country where the participants froze their eggs. Of the 31 participants, 20 froze or attempted to freeze their eggs in the UK, seven underwent the procedure in the USA and four underwent the procedure in other countries<sup>21</sup>. The cost of the procedure varied the most for the American participants with some of the women undergoing the procedure with cost covered in part or wholly by their health insurance and others having to pay for the majority of the procedure themselves, costing them up to \$10,000 a cycle. On the other hand, the cost of egg freezing for the women who underwent procedure in the UK (n=19) was around £6,000 per cycle<sup>22</sup> and all but one participant, Rachel who funded the process through a freeze and share scheme, paid for the treatment out of pocket. 40% of the women received financial support when paying for the procedure either through contributions from their parents (n=8) or through making use of money from family inheritance (n=4). The remaining participants who paid for the procedure themselves did so using their own savings, bank loans or credit cards. This led a number of participants to note how the cost was currently quite exclusionary and only available to those who were either financially secure or who had families who were able to pay for the procedure.

*I have this girlfriend now who 33 and she wished, she is in such a craving to find someone, and she contacted me as she wanted to freeze her eggs...but she hasn't got the money to actually do a cycle so I wish it was cheaper and more accessible for those women.*

*Sofia 39, In a relationship, Non-Mother*

Whilst egg freezing for medical reasons may be funded by the NHS for some women, currently the only means by which women can access 'subsidised' egg freezing in the

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<sup>21</sup> These participants underwent the procedure in Spain, South Africa, Thailand, and Argentina

<sup>22</sup> Costs for egg freezing correct as of 2015



UK for social reasons is through a freeze and share scheme<sup>23</sup> whereby a woman receives treatment free of charge if she donates half of her eggs to another woman. One participant, Rachel, froze her eggs through this scheme. However, she commented that whilst she was pleased that she was able to access the technology, she would have preferred to have been able to afford the procedure herself as instead of undergoing multiple rounds of ovarian stimulation and retrieval she would have only needed to undergo one round of the procedure in order to collect a sufficient number of eggs for storage.

*I would love to tell you that it was completely altruistic but the reality is that it was a financial decision, that I was able to freeze my eggs with absolutely no cost to myself and at the same time help somebody else. I wouldn't have chosen to do that if the financial incentive wasn't there I don't think...But that was definitely the reason for doing it because I couldn't have afforded to do it otherwise, without taking out a bank loan or something.*

*Rachel 34, Single Non-Mother*

Further costs of undergoing the procedure which a smaller number of the women identified were opportunity costs, such as having to miss certain social or work events as well as for one participant, Johanna, a self-employed fitness professional, the financial cost associated with having to reduce the hours she could work when undergoing the procedure.

*You know it was a major, major thing that I did, it wasn't just a case of paying out the money for the treatment, I had to cut my work and I had to extend my overheads for four months before I even started. So you know the investment was huge.*

*Johanna 42, Single, Non Mother*

Prior to freezing eggs it was common for women to investigate both the costs of the procedure and the risks. The amount of time and energy devoted to researching egg freezing varied across the sample with some of the women spending a significant amount of time learning about the procedure and associated risks whereas others

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23 Freeze and share programmes currently only accept women below the age of 35 with an AMH of seven or higher which indicates their fertility is still likely to be high enough to warrant the procedure.

described deliberately not seeking out too much information about the procedure and instead were happy to be guided by their clinic.

*So I didn't obsess with it, I didn't read too much about it. Despite knowing people in the business I deliberately didn't read too much about it because I didn't want to worry too much about things...I want to be relaxed about it and let it gloss over me a little bit.*

*Hayley 38, Single Non Mother*

The physical risks that the participants most often identified were the risks of overstimulation and the likelihood of negative side effects from stimulation drugs. There were several strategies employed by the participants to deal with these risks both when considering engaging with the technology and when actually undergoing the process. One of these strategies that helped the participants rationalise and cope with the physical risks presented by the procedure was framing egg freezing as 'simply' half an IVF cycle and therefore lower in risk or bearing the same risk as those undergoing IVF, which they believed to be safe.

*Essentially it's just IVF isn't it, it's just one half of IVF...um the actual harvesting process which is which has been done loads so it can't be that dangerous.*

*Livvy 37, In a relationship, Mother*

Furthermore, participants also suggested that IVF, and therefore egg freezing, was safe or at least 'low risk' due to its widespread practice.

*It's become more of a norm, as I said at the beginning, to do IVF is now something that most women will, maybe not most, but a lot of women would consider if they had fertility problems. They would assume it was fairly safe because it's been around for a long time...it is really quite a mainstream kind of thing.*

*Emily 44, In a relationship, Mother*

What helped further normalise the procedure and the use of ARTs for the participants was, for some, their awareness of other people who had undergone medicalised fertility treatment. Twenty percent of the participants disclosed knowledge of a close friend or

family member who had undergone some form of fertility treatment, which led some women to also comment that their decision to undergo egg freezing was not unusual or out of the ordinary. A smaller number of participants also suggested that the lack of available data proving egg freezing or ovarian stimulation to be dangerous also led them to feel more confident about considering using the technology because they believed this was further evidence that the procedure was likely to be low risk.

*I suppose I just decided to do it even though there are unknowns because there wasn't evidence to say don't do it. I think I probably did as much research as I could, but you know there wasn't enough information about that and I am sure there won't be for maybe another 20 years.*

*Emily 44, In a relationship, Mother*

*I think if there was anything huge I probably wouldn't have done it and then obviously, like some of the literature said there may be a slightly higher risk of ovarian cancer, but then there was other literature which says that they haven't really proved it.*

*Effsie 40, Single, Non-Mother*

When assessing these physical risks, it was also common for the participants to discuss how they believed, from the clinicians' perspective, that the risks were manageable, calculable and routine and therefore took this to mean that they did not need to be concerned when undergoing the procedure. These participants would also reiterate the importance of placing trust in the medical professionals and establishment to deliver their treatment effectively and to reduce the amount of risk they were exposed to.

*It seems like there is a very slim chance of something going wrong and when you go there. The IVF unit is a busy thing there are people in it every day and the week so you know they do it all the time...you have to put your trust in the person and think I will just let them do their job.*

*Olivia 37, In a relationship, Non-Mother*

It was also suggested by two of the participants, Effsie and Helena, that their decision to freeze their eggs was made on the condition that they would only undergo one round of stimulation. Effsie in particular stated how she saw her decision to complete one cycle

of stimulation and retrieval as much less 'risky' than the practices of others who underwent repeated rounds of IVF treatment when trying to conceive a child.

*I don't like the idea of putting a lot of things into my body that aren't particularly natural for it so I thought I'd do it once and that is enough. I've heard of people who have 15 rounds of IVF, for me I would just, I would want to.*

*Effsie 40, Single, Non-Mother*

*I was thinking I don't take hormones on a regular basis I don't think one treatment will matter too much. I guess that was my reasoning.*

*Helena 37, Single, Non-Mother*

Even though the majority of participants believed that they were exposing themselves to some bodily risk by freezing their eggs, they rationalised and managed these risks using these strategies. However several also commented that any bodily risks to which they were exposed were offset by the potential gains they would experience if the procedure was successful and they were able to use the eggs to conceive a child in the future.

*With any invasive procedure there is a risk of infection, but the risks are very low so it wasn't something that worried me and I thought the benefits far outweighed the risks.*

*Emily 44, In a relationship, Mother*

*Well I suppose I felt that these risks, that the benefit that I would have from this treatment outweighed the fear of the risks really, as simple as that.*

*Helena 37, Single, Non-Mother*

As well as identifying the physical risks of engaging with the technology, the participants also identified the possibility that the procedure would fail to provide them with a child in the long term as a risk in itself. Most participants felt it was better to undergo the procedure and have a chance of it succeeding rather than not attempt it at all. Participants also identified several risks of not undergoing the procedure, including physical, but also social or emotional risks.

### 7.3.2 Risks of not undergoing egg freezing

Participants identified risks associated with not undergoing the procedure, which included physical risks associated with conception and pregnancy at an older age. For the majority of the participants, however, the risk of miscarriage and genetic abnormalities in their children was one they were willing to take currently, as well as in the future, when trying to conceive naturally. However, the main risk the participants identified of not undergoing egg freezing was the social or emotional risk that they could one day experience involuntary childlessness.

*So um all I knew was it was a very low low chance. I was probably throwing away my money but again it's that thing, I didn't want to regret it. I didn't want to look back and think oh why did I do that because I would never had known whether it would have been successful or not had I not done it.*

*Livvy 37, In a relationship, Mother*

The other risks of inaction identified by the participants included the 'risk' of panic partnering, as discussed in the previous chapter, and the risk of having a child at what was perceived to be the wrong time under the wrong circumstances which was considered to be potentially detrimental to both mother and child.

Finally several women suggested that whilst there was little they could do about the physical risks of undergoing the procedure, they were able to take the 'active' decision to 'protect' their fertility through egg freezing thereby reducing the amount of blame they would feel if they were unable to conceive in the future.

*The medical risks you actually can't do anything about other than not put yourself in that position...whereas the risk of not doing something about it and not being able to have children later is tied up with the kind of something you could make yourself feel guilty about.*

*Olivia 37, In a relationship, Non Mother*

### 7.4 Making the decision to freeze eggs

The decision to freeze eggs was often not straightforward or simple and the factors and issues affecting this decision were complex. The figure below represents a summary of the factors or circumstances which I suggest lead women to freeze their eggs.

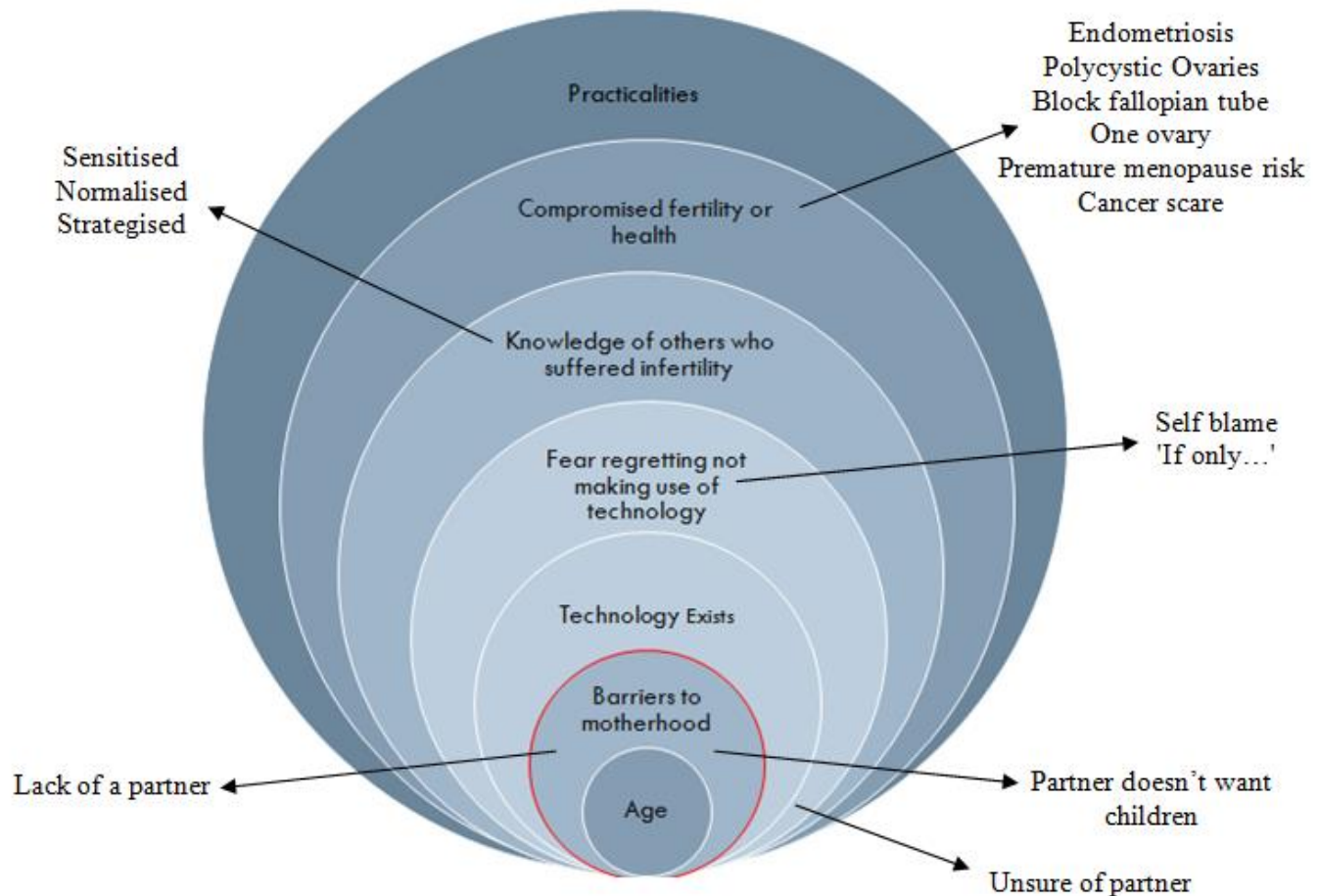


Figure 10: Factors or circumstances leading women to freeze eggs

This stacked Venn diagram has at its centre, represented within the red circle, the main and most influential factors which were at the core of all of the participants' decisions to freeze their eggs. The outer rings contain additional factors that also affected some, but not all, of the participants. These factors and how they affected the participants' decision making will now be discussed in depth.

#### 7.4.1 Age and barriers to motherhood

At the centre of the decision to freeze eggs was the age of the woman and her awareness that, as she was getting older, the ease with which she would be able to conceive was declining. It was a concern about ageing (though they were not always clear about how

this would affect their fertility), which all of the participants shared, that first led them to consider freezing their eggs. The other core factor, which was again shared by all of the participants, was the perception of there being a 'barrier' that was preventing them from simply pursuing motherhood immediately. For the majority of these women this barrier was the fact that they were not in a relationship (n=26) and for the remaining five women it was because they believed their current relationship was not, or might not be, the right one in which to have a child. This was because their partner either did not want to have children (n=2), because they were in a new relationship which they believed needed time to develop before considering having a child (n=2) or because they were unsure about the potential longevity of their current relationship (n=1).

*I would like to have a family and I was about 38-39 and hadn't met somebody.*

*Ellen 45, Single, Non-Mother*

*Because I had only just started in a relationship with a guy and we hadn't been together very long and I didn't want or wait two or three years to see if we were going to be a couple.*

*Mary 49, In a relationship, Non-Mother*

*The fact that I was in a relationship with somebody who was giving, well possibly, signals that they weren't going to want children then that's what... I started to think about having children when I was 32 and I started to drop that into conversation and then I started to realise that that wasn't really happening..but then my automatic thing was right, well, I need to find out where my fertility is and how long have I got until I need to panic.*

*Rachel 34, Single Non-Mother*

It was therefore these two issues, advancing age and the lack of a suitable partner, which led women to become concerned about their ability to have a child in the future. Their main concern was that by the time they had found a partner or suitable relationship where they felt the time was right to have a child their fertility window may have passed, preventing them from being able to conceive. This was particularly significant in twelve cases where they had recently come out of a relationship, so were therefore newly single and looking for a partner with whom to have a child.

*The context was really more than anything it was after I had broken up with my boyfriend I was 32 years old I wanted to have a family*

*Lindie 34, In a relationship, Non Mother*

*I had been with somebody and then split up with them and that kind of at the age of 36 going on 37 that kind of triggered something in me which made me think am I going to meet anyone and at that stage I thought I am going to look into it.*

*Kanta 41, Single Non Mother*

However, it was not the participants' lack of a partner and advancing age alone that led them to consider freezing their eggs, it was their desire to do motherhood that was important. Had these women not felt a strong desire to pursue motherhood in such a way they may have otherwise considered becoming a mother through sperm donation, a co-parenting arrangement or adoption. Furthermore, and as several of the participants themselves suggested, they could have frozen embryos, decided to have a child with their partner by deliberately failing to use contraception, fallen pregnant with a partner they considered less than perfect or even through a casual relationship such as a one-night stand. Several participants commented that, whilst these were options they had considered, they ultimately discounted them at that time as they sought only to have a child with a committed partner.

The options that these women therefore saw themselves as presented with were to either freeze their eggs or do nothing and hope that they soon met a partner with whom they could have a child. The remainder of this chapter will now examine the factors that ultimately led women to make the decision to freeze eggs beyond the two core motivating factors already discussed. Whilst these factors did not affect every participant, unlike the two core reasons already identified, they did nonetheless function as motivational factors for many of the participants in leading them to undergo the procedure.

#### **7.4.2 Technological availability: the fear of future regret**

For some of the participants the availability of egg freezing technology was reason enough to undergo the procedure. Women such as Livvy commented that the



availability of egg freezing and the fact that they could afford it meant they saw no reason not to undergo the process themselves.

*You know sort of read all these horror stories about leaving it too late, so you know thought well if I can afford it then why wouldn't I do it.*

*Livvy 37, In a relationship, Mother*

*I mean obviously it was technological possible so that is a reason to do it, you know. If you think of doing something and it's not possible obviously you can't do it, the fact that it was possible made me interested in doing it.*

*Emily 44, In a relationship, Mother*

For these women the existence of the technology, and importantly their awareness of it as a potential option, acted in itself as a motivating factor which led some women to pursue the procedure. This was because, as already discussed above, many of the participants feared that if they did not undergo the procedure they might one day come to regret their decision especially if they were unable to conceive. Therefore the availability of the technology, and the fear of regret if they did not use it, ultimately functioned as a motivating factor leading the participants to further seriously consider undergoing the procedure.

*If I had not had any eggs frozen but I had thought about doing it I would have absolutely kicked myself, I would probably never of forgiven myself. And that was one of the motivating factors of doing it.*

*Emily 44, In a relationship, Mother*

*So many people said you have got to do it because you don't want to be sitting there in a couple of years' time really regretting that you didn't do it, and that's the thing that was driving me as well and that's the thing that now as I look back I think I am really glad I did it. So I do feel that and if I hadn't have done it you know I think I would be kicking myself. Holly 38, Single Non Mother*

Over a third of the participants reported this as affecting their decision to freeze eggs. For some of these participants the availability of egg freezing and fear of future self-

blame and recrimination meant that they felt unable to turn down the offer of freezing their eggs.

#### 7.4.3 Knowledge of others who suffered infertility

Having close friends or family who had suffered fertility problems or who had undergone fertility treatment in the past was a factor for some women. Around half (n=15) of the participants spontaneously disclosed that they had known someone (usually a close friend or family member) who had experienced difficulties when trying to conceive and had undergone some form of fertility treatment. It appeared that their knowledge and awareness of the struggles associated with infertility, and undergoing fertility treatment, served to sensitise several women to age-related infertility as something they might one day face. This was the case for Aleen who had a friend who struggled to conceive but who was also aware that her own mother experienced difficulty when trying to conceive and only gave birth to her following intensive fertility treatment.

*I had got it in my head that I could be in the same position as my mum but she never said what it was that caused the difficulty and I had never had myself checked out.*

*Aleen 35, Single, Non Mother*

*My sister she went through three IVF attempts the third one succeeded and she is older than me and I saw how going through that process put pressure on her relationship and I thought maybe I should take this more seriously.*

*Catrine 34, In a relationship, Non Mother*

As well as sensitising the women to the risk of age-related infertility, the awareness of close acquaintances having used ARTs to conceive also served to normalise the use of fertility treatments to some of the participants, as Emily commented:

*Yes, I knew lots of people who had done IVF, because egg freezing is just the first part of the IVF process, so that did influence me and make it sound pretty mainstream in a way.*

*Emily 44, In a relationship, Mother*

Furthermore, having a close friend or family member who had undergone fertility treatment also enabled the participants to plan and manage the egg freezing procedure and for some made the process of freezing their eggs easier.

*Just made a decision that day and was right I need to do this, you know because of my age, and it was very easy for me because Jennie knew who I should go and see and I made an appointment and I knew I was going to do it so there wasn't any oh should I think about it or not I just knew I would do it.*

*Claire 41, Single, Non Mother*

#### 7.4.4 Compromised fertility or health

Whilst the concept of social egg freezing is routinely interpreted as the decision to freeze eggs for non-medical reasons, seven of the participants (over 20%) disclosed an underlying fertility or health issue as affecting their decision to undergo the procedure<sup>24</sup>.

*Oh I have forgotten a really big part of the story! One of my tubes is blocked and I got told that when I was 35 or 36 I had to go in for a scan and they said that and I was a bit freaked out.*

*Patricia 41, Single, Pregnant*

*So they removed all the endometriosis... and I now I know retrospectively that when they removed the endo they also removed loads and loads of ovarian tissue so I was left with a reduced ovarian reserve.*

*Sofia 39, In a relationship, Non-Mother*

*I always knew something was wrong and after lots of tests, I had like acne and then I had massive irregular periods eventually after finally after lots of pushing diagnosed me with polycystic ovaries.*

*Amber 39, Single, Non-Mother*

The underlying fertility problems disclosed by the women included endometriosis, polycystic ovary syndrome, blocked fallopian tubes and the loss of an ovary from a

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<sup>24</sup> This was not something that was specifically asked in the interview, it is therefore possible that more of the participants had underlying health or fertility problems but did not disclose them to the interviewer

previous illness. Additionally, other women were diagnosed as being at a high risk of premature menopause or other serious illness such as cancer. These participants had self-identified as freezing their eggs for social reasons, yet underlying this decision was the knowledge that their fertility or general health may already be compromised. It is possible that without this added risk factor these women might have not undergone the procedure or might have waited longer before doing so. Either way, the presence of additional fertility problems was a highly influential factor predisposing these women to consider egg freezing.

#### 7.4.5 Practical facilitators and key events

For all of the participants the decision to undergo egg freezing meant the commitment to a somewhat lengthy process of tests, consultations, medications and regular trips to their clinic, all of which had to be fitted into their already busy lives. The practicalities of being able to afford the time and money to undergo the procedure and its convenience were often key when it came to making the decision to freeze eggs. This included factors such as whether the participants lived or worked near a suitable fertility clinic, had time to undergo the process or could financially afford the procedure.

*I just thought oh fuck it I have got the money I will just do it, I wanted this test to give me a bit of reassurance as to whether I should or shouldn't, and I just thought it was a bit wishy washy, and I thought right ok just do it I was always going to do it as I had my mum's blessing and I could afford it.*

*Aleen 35, Single, Non Mother*

*I decided to take a career break when I was 36 until a year ago and because of that career break I felt like I had the time and the space to do it. And I think if I had been working full time it might have been much more tricky. I think the prospect of me being on the a career break and knowing I was about to take a career break was also something that made me think yes you know what I have got the time to do this. And financially it's going to be ok.*

*Hayley 38, Single Non Mother*

Whilst these issues did not act as motivational factors that led them to seek out egg freezing, they were nonetheless important facilitators which structured the participants'

decisions when it came to deciding whether or not to undergo the procedure. It is possible that such facilitators could act as crucial tipping points that lead some women to undergo the process, particularly if they have the time and money and easy access to a clinic. However, such factors could equally lead other women to decide against the procedure, for example if they lived or worked far away from a fertility clinic or could not afford associated costs of freezing eggs.

Further key factors which also acted in some cases as crucial tipping points leading the participants to undergo egg freezing were significant events or happenings which occurred in the participants' lives such as the breakdown of a relationship, a recent significant birthday, a health or fertility related diagnosis or scare, or even becoming aware for the first time about the efficacy of egg freezing in older women. For some of the participants, particularly those who had been considering the procedure for some time, such key events acted as critical experiences prompting the participants to undergo the procedure.

*I had been with somebody and then split up with them and that kind of at the age of 36 going on 37 that kind of triggered something in me which made me think am I going to meet anyone and at that stage. I thought I am going to look in to it and so I contacted the institution that my GP had told me about and just started that process.*  
*Kanta 41, Single Non Mother*

*In 2010 that's when I really researched freezing my eggs because when I broke up with my boyfriend at the time and decided to move back I thought ok you know, I had learned about vitrification and that was the new breakthrough that came about in 2009. And I thought you know I am reaching the end of my limit here and so I have to do something.*

*Mabel 42, In a Relationship, Pregnant*

It was also common during the interviews for the participants to discuss how their desire to do 'everything possible' had shaped their engagement with egg freezing technology.

### 7.5 The desire to do 'everything possible'

Around a third of the participants suggested that they wanted to undergo egg freezing so as to provide themselves the extra reassurance that they had done 'everything possible' to ensure that they could one day become a mother. By freezing their eggs the participants hoped that should they struggle to conceive naturally they could turn to their frozen eggs in a bid to have a child. Should the frozen eggs also fail to provide them with a child the participants suggested they would feel more at peace with their resulting childlessness than they would have done had they have not frozen their eggs. These participants therefore sought to freeze their eggs so they knew they had done 'everything possible' to make motherhood a possibility and therefore not blame themselves for not doing 'enough' to protect themselves against unwanted childlessness in the future.

*If it comes about that actually I can't [have children], I would be devastated, absolutely devastated but I have to think that I did what I felt I could do at the time it's not like I didn't take measures to try and achieve what I know I want to achieve.*  
Aleen 35, Single, Non Mother

*I think it is very exciting but if it doesn't work I know I'm my heart that I have done everything possible to try to make that work. So you never know how you would react at that moment but I know I've done everything to ensure that.*  
Charlotte 42, Single, Non Mother

When discussing the decision to freeze eggs it was therefore common for the women to suggest that by taking action, rather than passively accepting the inevitable decline in their fertility, they were taking responsibility for their futures.

*Well I just think in terms of taking responsibility for my own hopes and dreams. If this is something that I really want to have in the future, is a baby, and I'm approaching the end of my fertility window, then the responsible thing to do I think is to take some sort of action and try to do what I can to preserve my ability of having this thing that I want...I'm taking responsibility for my own goals, for my own*

*dreams, for my future, and making decisions that better enable me to continue to pursue that goal in the future.*

*Katie 38, Single, Non Mother*

*I felt like I had done something responsible, cutting edge and proactive.*

*Mabel 42, In a Relationship, Pregnant*

The decision to freeze eggs was therefore strongly linked to the desire to avoid self-blame or recrimination in the face of unwanted childlessness and to the belief that undergoing egg freezing was more responsible than doing nothing to protect their fertility.

## 7.6 Summary

This chapter has provided an examination of how women come to consider and ultimately undergo the process of freezing their eggs. It has shown how these women identify and assess the various risks associated with undergoing, but also not undergoing, the process of freezing their eggs and has examined the risk management strategies they describe both when considering freezing their eggs and when actually undergoing the process. In particular this chapter has shown how for many women the decision to freeze eggs is made due to the belief that the risk of not freezing eggs (and of unwanted childlessness) outweighed the risks associated with the procedure. Furthermore, the risks of the procedure are considered 'worth it' in light of the potential benefits that egg freezing can afford. This chapter has highlighted the ambivalent relationship some of the participants had with the process of freezing their eggs that will be examined in more detail in the next chapter. It has also provided an in depth discussion of the issues and motivating factors that lead women to freeze their eggs. It has shown how this is often linked to concerns the participants had about their current and future fertility, to the perception that it was not yet the right time for the participants to have a child, and to the desire to avoid blame and self-recrimination in the future should they experience unwanted childlessness.

The next and final findings chapter of this thesis will describe the participants' experience of undergoing egg freezing, discuss the support structures the participants drew on during the treatment process and examine how women described the impact

freezing eggs had on their lives. It will also provide an account of the participants' thoughts and intentions towards their eggs and their hopes for the future.



## 8 Chapter Eight: The experience of freezing eggs for social reasons

### 8.1 Introduction

The previous chapter provided a discussion of the factors and issues that motivated the participants to freeze their eggs and noted how the lack of a partner, fears and concerns about infertility as well as the desire to avoid blame, regret and self-recrimination were central to the participants' decisions to freeze eggs. This chapter will provide an in depth examination of the experience of the egg freezing process, how they felt after the procedure, and their current and future hopes and expectations with regards to motherhood.

### 8.2 Preparing for the procedure

At the time of the interview 30 of the participants had completed at least one round of stimulation and retrieval and one further participant (Shu) was to begin the process of freezing her eggs in the days following the interview. Most of the women (61%) froze their eggs in clinics and hospitals based in the UK and the majority of the participants (87%) underwent the process of egg freezing in the country where they resided. When choosing a clinic to freeze their eggs, it was common for the participants to draw on their own network of friends and family to advise them about where they should undergo the procedure. This sometimes resulted in them visiting the same clinic or clinician as a friend or family member who had previously undergone fertility treatment.

*And so I thought you know what I believe in this technology and I have faith that the clinic seems really well regulated. I have had a really good recommendation of a doctor to go to who had success with my friends IVF children. I sort of felt that everything fell into place.*

*Hayley 38, Single Non Mother*

*Well I had a couple of friends who had done, not this, not egg freezing, but who had been with a partner and had fertility problems and had to do in vitro and had gone to this particular clinic in Chicago. And it's famous, it's well known, it's like the place to go in Chicago.*

*Katie 38, Single, Non-Mother*

Other participants who did not have access to such networks often referred to 'Googling' local clinics when trying to choose where to undergo the process. For many of the participants it was the reputation of the clinic, how much experience the clinic had with the process of freezing eggs and the clinic's location which were the most influential factors when choosing where to freeze their eggs.

*I didn't expect it to be so hard to find a clinic that I was comfortable with and obviously price was a factor...I spent so much time on the internet just surfing and surfing and hoping find something.*

*Effsie 40, Single, Non-Mother*

*I looked at a few different places and I spoke to some people and I chose [clinic name] as it was the easiest for me to get to from work as you have to go there so much and I found the prices were reasonable comparable I did quite a lot of research on the fertility boards and stuff online*

*Patricia 41, Single, Pregnant*

A small number of participants mentioned looking at the clinic statistics and success rates when choosing a clinic:

*The reason why I chose that clinic, well several reasons, they had a lot of experience, they had been doing it for a long time themselves, secondly they publish all their results online and their results are verified by a third party they also publish their results broken down by the age groups of the women so it is a little more comparable and thirdly because of the price, the price structure was very easy to understand they have a set price and that includes 2 or 5 years of storage.*

*Catrine 34, In a relationship, Non-Mother*

*You know its hard for them to give you really good statistics on egg freezing as there is not that many women that have actually unfrozen their eggs.*

*Anne 36, Single, Non Mother*

Other factors such as the cost of the procedure, the 'feel' the participants got from the clinics and how long they had been offering egg freezing were described as important when choosing a clinic.

*I think [clinic name] was more reasonably priced compared to the other clinics I seem to remember and I was really impressed with the marketing literature and what they seem to have done at the clinic and they weren't just about IVF they were very much about egg freezing and they seemed to know a lot about it.*

*Holly 38, Single Non-Mother*

Several women described how they were unable to elicit a precise idea about how successful the procedure was likely to be from their clinicians. However women did nevertheless report having their hopes and expectations with regards to how many eggs they would be likely to retrieve and freeze 'managed' by the clinicians they encountered.

*They managed my expectations well and I really wasn't expecting much at all so I was really pleased to get four [eggs] in the end.*

*Leona 39, Single, Mother*

*She told me very candidly there is no guarantee that you will have a child there is no guarantee that any of these eggs will work you know*

*Rae 39, Single, Non-Mother*

### 8.3 Undergoing the procedure

Several of the participants had undergone numerous cycles of egg freezing and retrieval. Most (68%) of the participants underwent, or attempted, just one cycle of egg freezing (n=21), almost a fifth of participants also underwent a second cycle (n=6) and a smaller number underwent three (n=3) or four (n=1) rounds of stimulation. Following egg

collection and freezing, women had between zero (due to a failed cycle of stimulation) and 62 eggs stored, the average number being 16<sup>25</sup>.

Experiences with egg freezing varied across the sample with some participants such as Anne remarking on the simplicity and ease of the procedure, however others such as Ellen found the process much more challenging, both emotionally and physically. The amount of support the participants reported, both practical and emotional, often influenced how easy or difficult they found the process.

### 8.3.1 Support during the egg freezing process

The majority of the participants had disclosed their decision to freeze their eggs to a small number of people, usually close friends and family. However, prior to and during the treatment process this information was not widely shared beyond a small number of people. The participants often shared their intention to freeze eggs with close friends and family to enable them to discuss the procedure and receive their support.

*I think essentially I was quite lucky as I had friends and family around and I was really open about it all, you know told everybody. Well I didn't tell everybody, I didn't tell my work actually, but I told most people and everyone was really supportive.*

*Lacey 40, Single, Non-Mother*

*Well it's a very personal thing, it's not the type of thing I am going to advertise on facebook you know, obviously I wanted to tell a few people to get their feedback so I told people who I thought would be the most supportive and that was like half a dozen people and I didn't see why anybody else needed to know really.*

*Livvy 37, In a relationship, Mother*

Most of the participants reported receiving support from their friends and family particularly from their own mothers and friends who had experience of undergoing fertility treatment. This support was often both emotional but also practical such as

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<sup>25</sup> If the participant who had 62 eggs stored is excluded from the sample as an outlier (the second highest number of eggs stored was 34) then the average number of eggs frozen drops from 16 to 15.

offering to attend clinic appointments and being present when the participant was first getting used to injecting herself with the stimulation drugs.

*I would say the injections were scary and intimidating. I'd never given myself a shot and yet the first, the very first day I did it my girlfriend Nicky came over to my house and she had frozen embryos so she'd been through the process alone and she kind of coached me through the first night, which was so great.*

*Jen 39, In a relationship, Non Mother*

*The first time I did it [the hormone injections] I was so scared that I made sure my mum was there with me because I was just freaking out. And in the end mum had to actually push it in because I just couldn't do it, I just sat there like oh I can't do it. And once she pushed it in I realised that once you have pierced the skin after that it isn't actually too awful.*

*Hayley 38, Single Non Mother*

In addition to looking for and receiving support from family and friends, several of the women also reported having sought support and guidance from online fertility forums. For these women the online support provided by women who had experience of, or who were currently undergoing, fertility treatment was particularly useful especially for women such as Rachel who did not know anyone who had undergone fertility treatment and had very limited knowledge of ARTs prior to engaging in the egg freezing process herself.

*That fertility friends site massively helped and I just think god why didn't I just crack on with that earlier.*

*Amber 39, Single, Non-Mother*

*I spoke to people a lot on Fertility Friends, to be honest they are the best resource that I found.*

*Rachel 34, Single Non-Mother*

This helped to reduce fear and anxieties associated with the procedure. Katie also commented how having such support normalised the process and validated any concerns or feelings she had during the procedure.

*It was so comforting that I had someone there who had been through it and who knew what she was doing and could just kind of talk me through it, just be moral support.*

*Jen 39, In a relationship, Non Mother*

*Im very thankful that I had that one friend who had gone through it two years before because she was like my touch stone. I would just email her every day and be like ok, this is how I'm feeling now, I'm feeling really bloated today. And she would just kind of normalise and validate all that for me.*

*Katie 38, Single, Non-Mother*

A smaller number of participants were able to make contact online, and sometimes meet in person, with other women who had frozen their eggs. The support, understanding and guidance such women were able to provide was often seen as superior to the support able to be offered by women who had undergone IVF. This was because women who had undergone IVF had done so with a partner and therefore experienced different challenges to those undergoing egg freezing. As Aleen suggested, undergoing egg freezing was like going through IVF by themselves without the support or presence of a partner. This comparison was drawn by several of the women who stated that often the most challenging aspect of the procedure was going through the process alone. This was because, whilst some women stated they had a strong network of support, they were ultimately alone at home when they had to go through the daily process of injecting themselves with the stimulation drugs.

*I was doing this on my own whereas couples do IVF, they have their husband with them so just being on my own and doing the shots on my own I always knew I had like you know friends and my mum was there for me but really at the end of the day it was just me by myself at home.*

*Anne 36, Single, Non Mother*

*It's not as if I had a partner, that was one of the main things I found, obviously it's difficult anyway but finding it really, really difficult, I was essentially, I was going through it on my own.*

*Preeti 37, Single, Non-Mother*

As a result, the challenges associated with undergoing egg freezing were perceived to be different to those undergoing IVF and were more often linked to a sense of loneliness and fear for the future than the concern that the procedure may fail to result in a pregnancy which is often a concern for IVF patients. Several of the participants also commented that, whilst they felt supported by the friends and family, they simultaneously found the process emotionally challenging. Furthermore, for some women the administration of the stimulation drugs seemed to function as a reminder that, as Jen stated, they were not 'where I wanted to be in life'.

*I lived alone at the time so I was truly going to be doing it by myself in my house. And so I just found that really upsetting, I would just come home from every single one of those appointments and just sob. I'd just cry, just ball my eyes out because it was such a reminder of the fact that I'm not, you know, I wasn't where I wanted to be in my life. So it was hard in that regard.*

*Jen 39, In a relationship, Non Mother*

*I can remember just being on this gurney thing waiting to go into the operation and having that cannula thing put in just crying my eyes out just thinking, why am I here on my own, why do I have to go through this sort of thing on my own*

*Claudia 41, In a relationship, Pregnant*

Several of the participants commented that, whilst they were generally happy with the treatment they received from the clinic, they believed that the clinics could better improve their handling of women undergoing egg freezing. This included better awareness from clinic staff that women might be at the clinic to freeze eggs and not to attempt conception. This was because more than one participant had to correct clinic staff who assumed they were attending the clinic for IVF not egg freezing, which was experienced as embarrassing for the participant.

*Obviously everyone assumes you are going through IVF, like even the hospital staff who do your blood tests, the people who do your scans...people assume you are there to have children now and this woman started talking to me and I started telling her that I wasn't actually having a baby now or was trying to, I was freezing my eggs and she looked at me like I was completely off the planet you know it was really tough.*

*Aleen 35, Single, Non Mother*

Other participants noted how they felt visibly different to the patients at the clinics who were attending with partners and suggested that the clinics could offer single women or men classes on injecting the stimulation drugs or offer single women only clinic days.

*At was at first when I went in I felt so self-conscious of being by myself and um there were other women that were by themselves in the waiting room but they were wearing wedding rings and at first it just felt like oh my gosh it felt a little bit mortifying.*

*Melanie 36, In a relationship, Non-Mother*

*It was really depressing just going to the injection meeting. Everyone was a couple, it was just so upsetting to kind of be there with five couples and then there's me by myself. And everything that they're talking about, you know, here's how you do the injection and your partner can do this, and I sit while your partner does that, and I was like I don't have a partner, I'm going to be doing this alone...And I just got so frustrated because I felt like they ought to have a separate class for single women who are doing this.*

*Jen 39, In a relationship, Non Mother*

The practicalities and further difficulties of undergoing egg freezing alone were also noted by others such as Aleen, who described how going through the process alone meant that she had to take sole responsibility to remember everything the clinicians told her and had to devise and ask relevant questions herself. Hayley made a similar observation that led her to suggest that the clinics should offer further support to single women when they were undergoing the procedure.



*Most of the time people are at consultations with their partner so if they miss something then their partner might pick it up. I kind of felt a bit actually that they could have gone through it a bit more with me.*

*Aleen 35, Single, Non Mother*

*I think they really need to be much more proactively supporting women doing it on their own, we have different feelings about it and we have a greater need for support.*

*Hayley 38, Single Non Mother*

The loneliness of going through egg freezing was noted by several of the participants, and for the small number of women who did have other support the process of freezing eggs was also quite daunting and distressing. Whilst most of the participants told their close family and received support from them, a small number including Preeti, Kanta and Effsie received little support and encouragement from their families. For Preeti and Kanta they felt that this lack of support was in part due to the specific ethnic and cultural backgrounds of their families (South Asian) which made it difficult to discuss issues such as using ARTs.

*I didn't really know what to do and I didn't really have any support around me because whilst my parents are great they are not used to this sort of thing because I am from an Indian background and the traditional thing to do is to get married when you are younger but I never followed that route so yeah I was a bit paralysed about it.*

*Kanta 41, Single Non-Mother*

This led Preeti to comment that, whilst she would recommend egg freezing to most women, she believed it was important for them to have a strong support network in place as the lack of such a network for her was challenging.

*I just kind of think looking back on it if someone came to me and asked me you know should they do it I would say whole heartedly yes if you can afford to do it, and if you have got a support network. If you haven't got a support network then no because it's too hard, for me it seemed too hard without a support network.*

*Preeti 37, Single, Non-Mother*

Whilst the majority of the participants reported supportive friends and family, a small number stated that they had encountered people who were less supportive of their decision. Usually these people believed that the participant would be better off pursuing motherhood immediately or spending more time and effort searching for a potential partner. However such comments were often easily dismissed by the participants.

*I remember one of my married friends she said that she thought I would be better off investing the time and effort in dating but I kind of expected her to say something like that, but she was still supportive I just think she thought I was going down the wrong avenue.*

*Effsie 40, Single, Non-Mother*

*My sister was like, what why are you doing that and I thought that was strange because I would expect her of all people to understand as she went through all these treatments so I am not sure if that is jealousy or she wishes she did it herself I am not sure actually but I wasn't expecting to get that so much of a not understanding reaction from her.*

*Catrine 34, In a relationship, Non-Mother*

### 8.3.2 Physical effects of egg freezing procedure

Most of the participants who underwent egg collection experienced some kind of side effects of the stimulation process, such as water retention and stomach bloating. A small number experienced minimal side effects, but others experienced serious, and in one case life threatening, complications. A quarter of the participants reported experiencing bloating that was so severe they believed that they looked pregnant with one participant even describing how this led to strangers repeatedly offer her seats on public transport:

*There were five or six occasions where men offered me a seat on the train and I thought well I better go along with this pretence. The first week not a lot happened but then the last week it just shot out it really went out and expanding and it was like the most perfect little bump and she just couldn't believe it my housemate just couldn't believe it.*

*Mary 49, In a relationship, Non-Mother*

*Your body bloats out almost like at a pregnancy level and I'm not talking like normal period bloat I'm talking like a whole chunk of your body, from like you chest down it was crazy so and its really an uncomfortable feeling like think of having your period but for weeks straight. Charlotte 42, Single, Non Mother*

Other perceived side effects of the stimulation included tiredness and weight gain.

*It made me incredibly tired like when my friends say like that on certain cycles they get really tired as I was physically wrecked for about two or three weeks it just really conked me out I would get up in the morning go out to work come home and go to bed at 7 o clock I was so tired.*

*Aleen 35, Single, Non Mother*

*I am super lean. I know what my body fat is because I had it monitored recently, I am 18% body fat now but I don't fit in my clothes. I still can't fit in my jeans properly from how I was before I started this regimen, dropping my exercise and all that stuff. So you know the whole process has caused me quite a lot of changes in my body*

*Johanna 42, Single, Non Mother*

A large proportion of the women reported either being diagnosed with ovarian hyper stimulation syndrome (OHSS) or experiencing several of the symptoms during the stimulation process or shortly after the egg retrieval took place. This included Amber who, due to her polycystic ovaries, was at an elevated risk of developing the condition.

*Then afterwards you have the retrieval but you have water left in you and I cant remember what its called but there is three levels of it and level three can end you in hospital [KB: OHSS] that's it so that's and yeah I had that.*

*Amber 39, Single, Non-Mother*

Several other participants also experienced similar side effects and became ill during or shortly after the stimulation process.

*Thankfully my parents were here but we came home and for the next 36 hours after the procedure I was just so bloated and extremely nauseated. And my doctor said it was totally normal just because I had responded so well to the stimulation that this was just a side effect of being so stimulated...But, yes, I definitely had my moments like, again, as I said, I really don't like being nauseous so when I was really nauseated and being totally irrational, I remember at one point crying to my dad that I thought I was dying.*

*Katie 38, Single, Non-Mother*

A further five participants also experienced serious side effects and complications as a result of their treatment, this included Anne who experienced a severe form of OHSS which led her to require hospitalisation after gaining 10lbs of fluid during the stimulation process.

*So a couple of days went on and my stomach still was hurting and then I ended up getting ovarian hyper stimulation, I got it on the 5th day. I basically woke up and I had gained 4lbs and I was in so much pain I went to the doctor they looked at the fluid in my stomach and they said there was a lot there and the next day I woke up and had gained another 4lbs and went back to the doctor and they were like fluid is there and I was like I know fluid is there, so then the next day I gained like another 2lbs which was now like 10lbs all just in your stomach like hard big stomach like you are pregnant and I am like a thinner girl so it was unbelievable how big my stomach looked I mean I literally looked pregnant. I went in and they said in order to get better they can drain your stomach it's a procedure where they put you under and they drain litres and litres of fluid from your stomach so that is what they ended up doing with me they drained one and a half litres of fluid which is a lot but even afterwards I still had so much fluid in me I still looked pregnant.*

*Anne 36, Single, Non Mother*

Half way through the stimulation process Rae was diagnosed with 'kissing ovaries'<sup>26</sup>, Catrine and Lindie described further complications they felt were caused by overstimulation and Ellen described a life threatening experience caused by internal

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<sup>26</sup> Kissing ovaries is the commonly used term to describe when a woman's ovaries are pulled and stuck together, this can be caused by ovarian hyper stimulation syndrome as well as endometriosis

bleeding, which she felt was the result of a mistake during a routine ovarian cyst removal.

*After the first retrieval I was ok probably for the first two days I was fine then all of a sudden I was like gaining all this weight like I gained 5lbs in a seven day span and if I looked down I could visibly see that my left side was much more swollen than my right side by a lot like a noticeable bit and it felt like somebody was squeezing my ovary or kicking me or something so I didn't know what was going on or why. I just knew there was a problem so I went back to the doctor and even allowing them to do a vaginal ultrasound was excruciating as there was so much fluid and that's when they told me that I have kissing ovaries so they way fluid builds behind one causes it to smack into the other so that was what the pain was about.*

*Rae 39, Single, Non-Mother*

*After I did the procedure I was going through a lot of pain and I complained a lot and the doctor was very concerned and I had a complication. I don't know what you call it in English but basically I had OHSS I delivered too many eggs and after they took them out I was in a lot of pain and what happened was I was super swollen, constipated and in a lot of pain.*

*Lindie 34, In a relationship, Non-Mother*

### 8.3.3 Emotional effects of egg freezing procedure

In addition to experiencing several uncomfortable and sometimes painful side effects of the stimulation and retrieval many of the participants also described what Claudia referred to as the 'emotional fallout' of the egg freezing process

*I was excited doing all the hormone injections didn't really bother me and yeah when I had it done I was glad I had a friend there as I did feel like it's a shame I am going through this on my own rather than with someone so I felt a tiny bit lonely that first one but then afterwards I had the emotional fallout.*

*Claudia 41, In a relationship, Pregnant*

The effect that the drugs had on the participants' emotional state was discussed by several women who reported feeling their emotions were heightened during the hormonal stimulation process leaving them more prone to crying and feelings of anxiety.

*So then I was doing the injections and I had some symptoms, like I felt a little PMSy, I think it's definitely the best analogy, like you just feel kind of, you know, easily upset, easy to cry, just a short fuse, and just a little emotional.*

*Jen 39, In a relationship, Non Mother*

*I would say I just wasn't prepared with how emotional it was I wasn't in a very good happy place anyway*

*Holly 38, Single Non-Mother*

In addition to feeling emotional due to the effect the drugs had on their bodies, many women also reported finding the egg freezing process emotionally and psychologically challenging. This was often because, as discussed in the previous chapter, many felt that they needed to engage in egg freezing due to their lack of a partner. Furthermore for several women egg freezing was something they didn't want to 'have' to do but instead wished that they could be attempting natural conception with a partner. This meant that egg freezing was sometimes a difficult process for these women to undergo and was often fraught with emotional challenges. As a result it was common for the participants to be highly critical of themselves, their decisions and their current position in life when they were undergoing the process of freezing their eggs.

*I think probably on a deeper level, a lot of what was coming out was just deeper emotions just about I can't believe I just did this, this is so crazy. How did I get here?*

*Am I ever going to meet somebody?*

*Katie 38, Single, Non-Mother*

*I just felt really low and really like it was I just felt depressed basically I just felt like what am I doing I wasn't actually that I was questioning what I was doing I just felt really miserable so and its quite hard.*

*Lacey 40, Single, Non-Mother*

For these women the emotions they experienced were not simply the result of the hormone drugs but were linked to their single status and sometimes to the dissatisfaction they felt about the current direction of their lives. When asked about how they managed the emotions that egg freezing manifested, several participants suggested that they found it best tell themselves that they were doing something that had the possibility of securing their desire for motherhood in the future. As Preeti stated:

*I had done what I could do at the time with what assets I had to do something towards my fertility and the future...at least I can't look back now and say well I didn't do anything about it at the time knowing what I know.*

*Preeti 37, Single, Non-Mother*

Several other participants suggested that during the process of freezing their eggs they became very goal oriented and determined to see the process of egg freezing through. It was then hoped by the participants that this would allow them to put their concerns or worries on the 'back burner' and get on with life as normal. Hayley shared how she dealt with the process of undergoing egg freezing and described how she prepared herself by likening the egg freezing procedure to a form of treatment which would make her 'better' once it was completed.

*I had to mentally tell myself that pretend that you have gone to the GP and the GP said right you need to do this to get better, you are going to have to take this medicine, and it's going to be horrible for a few weeks and then it will be over and then you will be fine. And I treated it like that as a way to mentally deal with the fact that I was going to have to do this horrible thing to myself.*

*Hayley 38, Single Non Mother*

## 8.4 Life after egg freezing-current and future hopes and expectations

### 8.4.1 Emotions following the procedure and attitudes towards use of frozen eggs

After completing the procedure the overriding emotion reported by the participants was the feeling of relief: relief that the procedure was completed, that it was successful and that it was 'out of the way' allowing the participants to 'get on' with the rest of their lives.

*Relieved I had got it out the way, relaxed it was nice to make the decision to do it and go through with it.*

*Catrine 34, In a relationship, Non-Mother*

*I think there is a sense of relief that this is over erm I feel like this is a book I want to close and put on the shelf for now.*

*Charlotte 42, Single, Non Mother*

A number of the participants also talked about how they felt empowered by the procedure and how that by completing it they felt they had been able to take some control back over their hopes and desires for the future.

*I just had this enormous sense of freedom and empowerment I was really kind of happy that I did it.*

*Aleen 35, Single, Non Mother*

*I felt really empowered, I felt really proud of myself, I felt like this was something scary and I'm still moving forward and doing it, and I just felt very like in control and empowered and happy, honestly, and really proud.*

*Katie 38, Single, Non-Mother*

For these participants the feeling of empowerment and control was linked to the hope and expectation that by having their eggs frozen they would have more time to, as Jen stated, 'enjoy the ride' and have more time to find the right partner and become ready for motherhood.



*It was an immediate overwhelming sense of relief; I mean it was just like wow, this is so great. I really do get to relax a little bit on this and just enjoy the ride. And it really affected me like that and the six months that I had dating him, I had a tonne of fun. We were super compatible, we had a great time and I wasn't this super hard-core stress ball about oh my god, I need to have kids, I need to have kids!*

*Jen 39, In a relationship, Non Mother*

*I feel it sounds like an advertisement for the treatment but I feel frankly empowered about the whole situation I feel like I did something I was not just sitting back and letting fate get the better of me. I took an active decision and whether that will be successful I don't know.*

*Helena 37, Single, Non-Mother*

This sense of empowerment and control also came from the hope that the technology may one day allow them to pursue motherhood, a possibility that would have been much less likely if they had not undergone the procedure

*I kind of feel like probably this is like you know like the sense of you know my last relationship definitely got the best of me but he didn't get all of me, he didn't take away that last thing that I preserved so it's very empowering.*

*Charlotte 42, Single, Non Mother*

*Well before I think I probably felt just very disempowered or not empowered anyway and partly because you felt there was none of it that you were controlling so afterwards you feel empowered partly because you have given yourself statistically a better chance even if it's not necessarily going to solve your problem your empowered because of that and because you have done something about it, you haven't just sat there and thought oh I just have to let things happen to me.*

*Olivia 37, In a relationship, Non-Mother*

The benefits of having undergone egg freezing were therefore often framed by the participants as allowing them more time to make 'better' choices about when, how and with whom to pursue parenthood.

Whilst the majority of the participants felt that by freezing their eggs they were able to have more time to become ready for motherhood several of the participants commented that they were keen to not over rely on their frozen reserve as eggs. This led them to suggest that whilst they may have initially felt a sense of elation after freezing their eggs they still felt a sense of urgency to find a partner and prepare for motherhood.

*There is definitely feel a sense of urgency, I just don't believe that having my eggs frozen is much of insurance. People who don't know about it think it might be insurance but it's not a very good insurance if it is insurance at all.*

*Preeti 37, Single, Non-Mother*

*At the time around about that time it did feel good it was a sort of a sense of relief but I don't know if I feel like that now, you think or maybe I have realised just because they are there it doesn't mean that they are going to get used.*

*Claire 41, Single, Non-Mother*

This sense of urgency was often still felt because whilst these participants were pleased to have frozen their eggs they were aware that their eggs may still not be successful in future IVF treatment. This was the case for Claire and Mary who were 39 and 44 years of age at the time of undergoing treatment and who had a reasonably small number of eggs frozen (five and nine eggs respectively). Preeti also commented that whilst she had frozen 13 eggs her awareness of the attrition rate at each stage of the process, should she want to use her eggs in future fertility treatment, meant that she felt that she could not rely on her eggs to guarantee a child.

*I know that, out of those 13 eggs I will be lucky if maybe 8 of them defrosted, 6 or 7 fertilised and then you have got implantation.*

*Preeti 37, Single, Non-Mother*

The participants held varying beliefs and hopes about how effective they thought their frozen reserve of eggs would be if they sought to use them in fertility treatment. Some of the participants expressed a degree of confidence when thinking about the possibility of using their eggs in future fertility treatment. It seemed that for Aleen in particular the confidence and hope she had in her eggs came from the fact that if she didn't invest a

degree of trust in her frozen reserve then she would feel panicked into trying to become a mother as soon as possible, which would defeat the point of her freezing her eggs in the first place.

*He did point out that it is all very experimental and you cant bank on it, its not an insurance policy but I tend to ignore all that because I think it is and I know I shouldn't think like that, I shouldn't, but I do think of it like that because if I didn't I would be like my friend and be trying to get knocked up tomorrow and I don't want to do that.*

*Aleen 35, Single, Non Mother*

*I am optimistic about it...so yeah I would say I am more on the hopeful side the optimistic side that things will work out.*

*Lindie 34, In a relationship, Non-Mother*

A small number of women appeared to have much lower expectations when considering using their eggs in fertility treatment and were often pessimistic about the possibility of them resulting in the birth of a healthy child. For Holly her pessimistic attitude came from seeing others try and fail to conceive using fertility treatment. This led her to remark that she didn't feel that she had 'time on her side'. Such a comment reflected Johanne's sentiments when she too suggested that she didn't feel by freezing her eggs that she was 'out of the woods'.

*I don't really want to rely on the eggs because I don't want to think oh everything alright I've got the frozen eggs. I have only got 10 and the chances aren't brilliant and maybe it's because I have seen what Helene has gone through again and again failure after failure. Some of my other friends have been through IVF so many times and it's not fun. I don't feel like I have time on my side that's all.*

*Holly 38, Single Non-Mother*

For one participant in particular, who was at risk of premature menopause and only retrieved four eggs for freezing, the possibility of conceiving using her frozen eggs appeared to her to be so remote that she decided to conceive immediately using donor sperm and later gave birth to a daughter.

*My consultant said that I shouldn't see them as an insurance policy and so I had that ringing in my ears when I thought of it he very very strongly stressed that it was something you shouldn't rely on...I was very wary that it might not work...At that point my focus on time wise I knew my clock was seriously ticking and I wanted to try and have a baby as quickly as possible rather than freeze some more eggs which may or may not turn into something so that's why I stopped the egg freezing side of things.*

*Leona 39, Single, Mother*

Whilst many women expressed an awareness that their frozen reserve of eggs may not result in the birth of a healthy child it was common for them to suggest that by freezing their eggs they had in some ways increased their chances of having a child in the future even if only by a small margin. It was further suggested that by freezing their eggs they were in a better position than they would have been if they had done nothing.

*I have a good feeling about it, if I didn't have a good feeling about the process of egg freezing I wouldn't have done it but I really feel like 45% is better than 0% like if I didn't do it there would be no chance.*

*Melanie 36, In a relationship, Non-Mother*

A small number of the participants also stated that they hoped that as time went on the technology surrounding egg freezing and using frozen eggs in fertility treatment would improve. This gave a few of the participants some hope that, if and when they came to use their eggs in fertility treatment, the technology would have significantly improved, increasing their likeliness of success.

*It's getting better every year as it goes on like when I first had it done [clinic name] were the only clinic in the country to have a child to my knowledge and now they've come on leaps and bounds..but so it's not 100% safe it's not 100% certain but im in a better position that I could possibly have been before.*

*Amber 39, Single, Non-Mother*

Whilst some of the participants appeared to be, as Katie said, 'cautiously optimistic' about the possibility of using their eggs in the future there was an awareness that they needed to not become complacent about their frozen reserve. Specifically the

participants suggested that they sought to not rely on their frozen eggs and instead wanted to remain focused on trying to conceive naturally once they had found a partner.

*It's one of those things I try to caution myself. In one sense I feel like that's a lot, there's a lot of eggs, and they all looked good enough to freeze so they're all at least I think relatively stable and healthy. So I think probably my chances of getting at least one baby are pretty good but there are absolutely no guarantees, who knows...I would say cautiously optimistic but I try not to let myself go to the place where I feel like it's something definitive because it's not.*

*Katie 38, Single, Non-Mother*

*I also do know that even though that I have like 18 eggs that clearly not all of them are going to be viable and it doesn't mean that like for sure that I am going to be able to have babies I would think one but I know that it is not this definite 100% sure guarantee that its going to work.*

*Anne 36, Single, Non Mother*

#### 8.4.2 Telling a partner or potential partner about egg freezing

At the time of freezing their eggs, 26 of the women were single and five were in relationships. Of these women who were in relationships four of them (Catrine, Livvy, Emily and Rachel) told their current partner that they were going to freeze their eggs. For Rachel, her decision to undergo the procedure was described by her as '*the nail in the coffin*' of her relationship as it established her plans to seek out a new relationship with another partner who wanted children unlike her current boyfriend. However, whilst her partner was aware that their relationship was going to break down, she described how he was supportive of her decision to freeze her eggs.

*He was supportive of me as a person, that I was doing the thing that I wanted to do, and he wanted me to be safe and healthy and everything else, but obviously that was a bit tainted by well if you keep going ahead and doing this very sort of pig headedly, then clearly, you know, we're not going to stay together forever.*

*Rachel 34, Single Non-Mother*

However Livvy, who decided to freeze her eggs for similar reasons, reported receiving less support from her partner mainly because he did not understand why she sought to freeze her eggs as he appeared to be unaware of the risk of age-related fertility decline.

*Whenever I kind of broached the subject of all 'ohh you know but I am kind of getting on a bit', he'd just think you know that that I was being silly because there was plenty of women in their 40's having children and he just didn't see what all the fuss was about.*

*Livvy 37, In a relationship, Mother*

Similar confusion about the decision for freezing eggs was reported by Catrine, whose partner found her decision to undergo the procedure odd given they were soon going to begin trying for a child themselves. However Catrine reported that despite this confusion he offered his support.

*He thought it was a bit strange which I could understand as he thought we could have kids on our own without freezing anything but he also understood that it was my decision and with the history with my sister and also other parents who have had problems in conceiving he kind of went along with it .*

*Catrine 34, In a relationship, Non-Mother*

Emily, who decided to freeze her eggs to allow more time for her current relationship to develop before having a child, reported receiving a lot more support from her partner when undergoing the egg freezing process. This was because whilst she believed he felt a desire to one day become a father he too wanted to spend some time in the relationship as a couple before pursuing parenthood.

*We you know hadn't been together that long so, and he very much wanted children in the future so for him it was seeing it as a good, if we were going to stay together then it would be a good safety bank.*

*Emily 44, In a relationship, Mother*

Of the remaining participants who were single at the time of freezing their eggs 48% (n=15) had experience of telling a partner about their decision to undergo the process or about their reserve of frozen eggs. Amongst these participants there was a shared sense

of finding the right moment to tell a partner and that it was generally important or useful to tell a partner or prospective partner about the frozen reserve. However, there was also a shared sense of concern and some anxiety associated with the disclosure, often linked the fear that men would believe the woman had 'baby fever' or was desperate for a child. Aleen described how her friends told her not to tell a new partner as they believed the man would think she was a 'lunatic' or a 'psycho' if he knew about what she had done.

*The boys who I know they know...they have said to me don't go telling people that. They are like 'they will think you are a lunatic'... 'they will think you are a psycho don't tell them' this is what my friends say to me.*

*Aleen 35, Single, Non Mother*

The fear of scaring off potential partners was also felt by Charlotte and Hayley who voiced concerns that it might give men the impression that they were desperate to find a partner and have a child and therefore put them off pursuing a relationship with them.

*I think that men's reactions would be as if you have baby fever or all you are looking for is to get married you, know how men are very they think that's all we all want*  
*Charlotte 42, Single, Non Mother*

*They might completely freak out and think oh my god she needs to get pregnant ASAP, shit. So it's not something I would tell openly to a new man on the scene.*  
*Hayley 38, Single, Non Mother*

However, many of the women believed or hoped that if they did tell a partner then he would be 'happy' or 'pleased' that they had undergone the process. It was also suggested that if a man did react negatively to the disclosure then it would indicate that that man was not the right partner for them.

*I imagine that if that person was someone I shared values with then they would understand because if he didn't then he wouldn't be the person for me.*  
*Catrine 34, In a relationship, Non-Mother*

*I think any man that I'm actually seriously interested in would see it as a very positive thing, just because I think that hopefully I would choose a man who... You*

*know, if I were seriously interested in somebody that they would be a person who was kind and with integrity, and would view this as a really awesome, positive thing.*

*Katie 38, Single, Non-Mother*

This suggestion led two of the participants to suggest that they had or might in the future disclose information about their egg freezing as a test to see if their partner was right for them and if they shared the same desire for parenthood.

*If he didn't have that reaction then he is so obviously not the right person for me. So I almost looked at it like this kind of litmus test.*

*Jen 39, In a relationship, Non Mother*

*I am going to tell him partly it's a bit of a test because I had a feeling that he didn't want to have children and I thought well I need to know so I told him as a little test and bless him he was really sweet about it. He was like wow that's a really brave thing to do...we broke up shortly after that. He had said he had been really worried for quite some time to tell me that he didn't really want to have children.*

*Lacey 40, Single, Non-Mother*

Some of the participants suggested that they thought potential partners might be 'impressed' that they had undergone the procedure, see it as a 'good thing' and maybe even be 'thankful' that they had their eggs frozen. One participant, Charlotte, stated how she saw her frozen eggs as a 'bonus' and referred to them as a 'gift with purchase'.

*I actually see it as a bonus I call it 'gift with purchase'.*

*Charlotte 42, Single, Non Mother*

*I pictured naively that it might be positive me having them there that if I met a partner I might be less of a scary baby wanting prospect because they would see I had done something sensible and made some provisions for the fact that I am older.*

*Claudia 41, In a relationship, Pregnant*

However only small number of women reported receiving such positive responses from men.



*Well you know he thought it was really smart, he always tells people how smart I am, my wife is such a good researcher, she is on the cutting edge. He thanks me all the time for seeking this out and doing it.*

*Mabel 42, In a Relationship, Pregnant*

Instead most often the participants described their partners' reactions as ranging from being accepting, to indifferent, to highly negative, leading in some cases to the end of the relationship.

*I said look I am 34 now and at some point in the future I would like to have kids I am thinking of freezing my eggs as that would give me more time and take the pressure off and that was it, he never called me again.*

*Rachel 34, Single Non-Mother*

Two of the participants further suggested that women should not be too eager to tell prospective or current partners about their frozen reserve of eggs and suggested that women would be better served keeping the information to themselves for as long as possible. This was because, they suggested, disclosing the existence of the eggs could, as Claudia had experienced, lead their partners to further try and delay parenthood.

*If I did it again I would never tell a man I had frozen eggs not unless he wanted children right away because I think what it does it says to a guy hey we don't have to do anything yet she has got frozen eggs and it can make them delay.*

*Claudia 41, In a relationship, Pregnant*

*I didn't want to tell him because I thought it would be an excuse for him to put it off and put it off so I thought if he doesn't know I have my eggs I can be like 'well I am getting older and you know there aren't that many chances left for me now'.*

*Mary 49, In a relationship, Non-Mother*

For many of the participants, several years had passed since freezing their eggs. On average the participants had completed egg freezing between one and two years prior to

taking part in the research<sup>27</sup>. As a result several of the women who were single at the time of freezing their eggs had since entered into new relationships and some had begun to pursue motherhood with these new partners. The figure below summarises the subsequent actions and reproductive intentions of the research participants.

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<sup>27</sup> However, one participant took part in the research interview a few days prior to beginning stimulation and another had undergone the process to freeze her eggs seven years earlier.

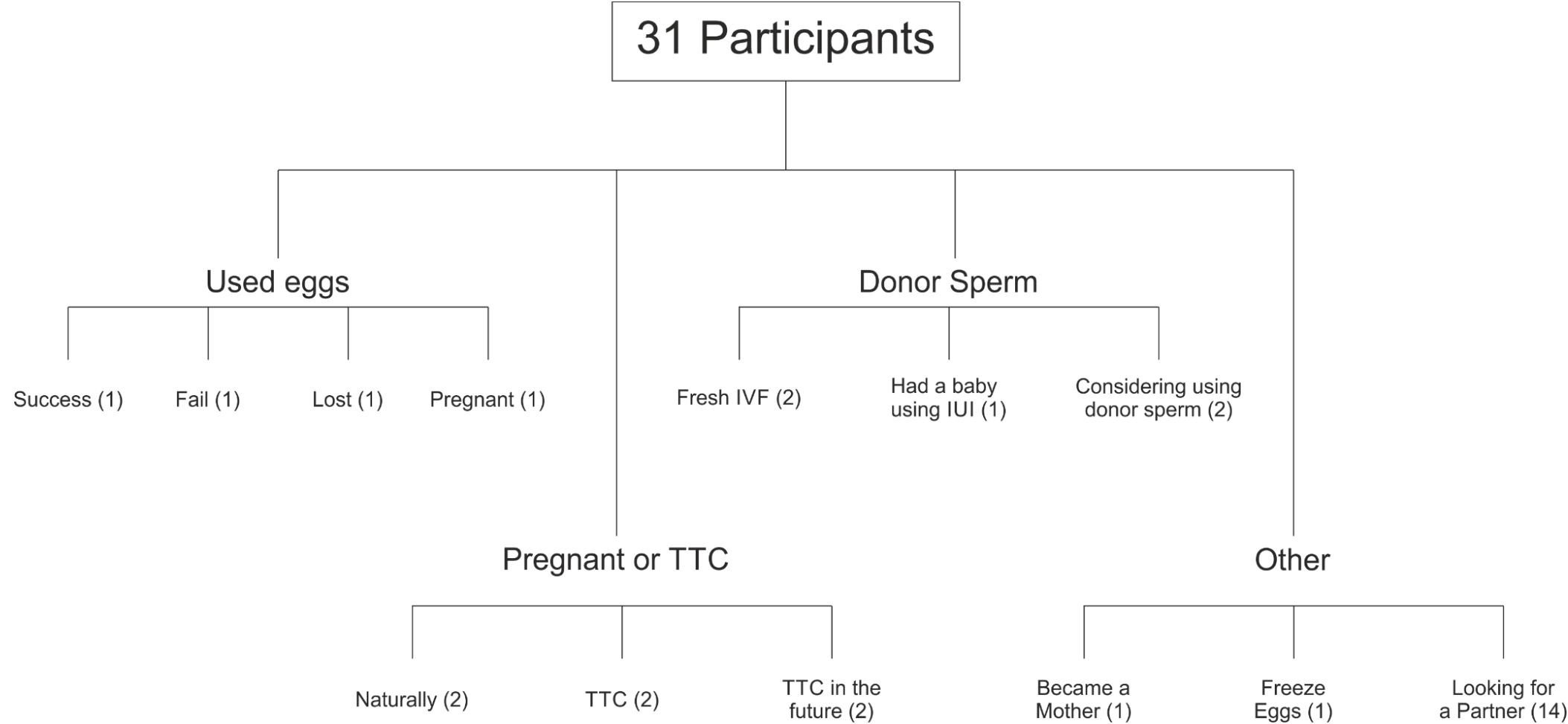


Figure 11: Reproductive intentions and actions of 31 research participants

As figure 11 shows, at the time of the interview the majority of the women (n=27) had not yet used their eggs in further fertility treatment, although four women had used them with varying results. One participant (Emily) had successfully conceived and given birth to a healthy girl and had frozen remaining embryos for use in the near future, a second participant (Mabel) was currently pregnant with twins conceived from two frozen eggs, the third participant had started the process of using her eggs with a partner only for them to all be destroyed accidentally during transit to another clinic (Jen). The final participant (Sofia) had used all of her frozen eggs in treatment with her partner but had not been able to successfully conceive and was now considering using donor eggs.

At the time of the interview two of the participants were pregnant after conceiving naturally with their current partner, a further two were currently trying to conceive naturally with their partner and another two were intending on doing the same in the near future.

Two women who were still single at the time of the interview were in the beginning of the process of trying to conceive through a fresh round of IVF using donor sperm and one further woman had already had a child through donor sperm which she conceived via intrauterine insemination (IUI) shortly after freezing her eggs (Leona). One participant, Livvy, who was unable to freeze her eggs after responding poorly to the stimulation drugs, fell pregnant naturally shortly afterwards and gave birth to twins. One participant was about to complete the process of freezing her eggs. Fourteen of the participants who were still single were still looking for a partner with whom they could have a child and a further two women were considering using donor sperm to conceive in the near future.

#### **8.4.3 Attitudes and intentions towards single motherhood via sperm donation**

Of the 31 participants, three had gone on to conceive or have genetically related children of their own either with their partners' (Emily and Livvy) or donor sperm (Leona) and a further three women were currently pregnant after falling pregnant naturally (Claudia and Patricia) or following ICSI treatment with their frozen eggs and partner's sperm (Mabel). Such a route to motherhood (using their own and their partners' genetic material) was the one desired by all of the research participants, but a number of the women were considering pursuing motherhood through alternative means: via sperm donation. Of the women who were still single at the time of the

interview, seven stated that they would consider using donor sperm to conceive and four of these women had begun, or were preparing to begin, the process of conceiving via donor sperm. Of the remaining participants, five suggested that they might consider using donor sperm in the future, five said they would not and two were undecided.

The most common reason provided by the women as to why they would not want to use donor sperm to conceive was because they wanted to have a child with a partner and as part of a committed relationship.

*I don't think I'd be a single parent by choice raising a family is very much something that I would want to do with somebody.*

*Effsie 40, Single, Non-Mother*

*I come from quite a traditional background. I had always thought I would raise a child with somebody else with a male partner and that whole conception of what life would be like having a child by myself without a partner was just too big a question.*

*Ellen 45, Single, Non-Mother*

This desire to have a child with a partner was also linked to perceptions about desirable family forms and as such several of the participants suggested that pursuing motherhood via sperm donation may not be fair to the children conceived.

*I personally I grew up in a very dysfunctional family and I don't ever want to bring a child into just a single parent household and that's just my decision. I mean we don't know, people get divorced all the time but I would want for it to start knowing I was in a committed relationship with the child's father first you know.*

*Charlotte 42, Single, Non Mother*

*I know people have single parent families, and maybe I will end up doing that, but my ideal would be to have both sets of parents looking after the child as a unit so in that respect no I don't think I am ready because I don't have the family environment which I would want to bring up a child in.*

*Aleen 35, Single, Non Mother*

This was linked to the suggestion that that they felt they would not be able to cope bringing up a child alone and would need the emotional and practical support of a partner.

*I don't want to actively be a single mother. And I know single mothers and I really respect them and admire them and I have absolutely no idea how they do it, but I don't want to proactively become a single mother. I just wouldn't want to do that, I need someone to help me look after a child, and also I feel like I am not grown up enough to do that I am really not.*

*Hayley 38, Single, Non Mother*

The importance of support when considering single motherhood was present in many of the participants' accounts and women often suggested that if they did become a single mother they would seek to move closer to their own families so they were able to draw on them for emotional as well as practical support. For many of these women the proximity to their own mothers and extended family was integral to whether they felt they would be able to become a single mother.

*Financially it would be quite hard and I would probably have to move back to New Zealand and my whole life style would have to change... I would move back probably to be closer to my mum and dad. Where they live in New Zealand is quite a small town and to be closer to my sister as she will be over there by then... think you need someone who you can just leave the baby with that you can really rely on and that really is a mother, sister or partner. I think you have got friends but you can't ask them that often so no I definitely think I would need that sort of support.*

*Claire 41, Single, Non-Mother*

*I wanted to move somewhere where I could create a more of an environment where it would be more feasible for me to do it on my own rather than in (home city) even though all my friends are there I still wouldn't want to do it I would rather be somewhere which is more community focused and I would have more support.*

*Lacey 40, Single, Non-Mother*

Furthermore, this meant that for some women, who either didn't have a strong relationship with their families, or who felt their own parents would be unable to

provide their support due to their age, the possibility of single motherhood seemed less viable.

*I do think that maybe if I had a different family setting, like if I had a family that was really really supportive of what I was doing then who knows maybe I would decide maybe I would be a single parent...but yeah I just don't have that relationship with my mum.*

*Effsie 40, Single, Non-Mother*

*I thought about having a child alone but I don't really have much support from my parents they are too old to take the baby for a while and so I probably wouldn't be able to do it on my own without an Au Pair or a nanny.*

*Mary 49, In a relationship, Non-Mother*

Several of the women also commented that they were concerned about the financial implications of pursuing single motherhood and some of the participants suggested that they felt they did not have the financial resources they believe they would need to make this a possibility.

*I think I would be very lonely in the fact that I would probably throw all my money at the situation and have a live in nanny to help me and go back to work quite quickly otherwise I wouldn't be able to cope financially I would have to go back to work.*

*Patricia 41, Single, Pregnant*

*I think living in (home city) it's expensive to live here, it's a hard place to live in many ways so I don't know if I would want to bring a child into a life on my own...but selfish as it is, I don't see myself living anywhere else. I love my life here I love you know the life I have built here I don't know if it is important enough for me to have a biological child to go and live in Iowa or something where I could afford to have a child on my own.*

*Charlotte 42, Single, Non Mother*

When discussing her decision to have a child via sperm donation, Leona echoed many of the concerns voiced by the other participants but also stated how she was particularly worried about how her child might feel in the future knowing they were donor

conceived. Leona described how making the decision to pursue motherhood was a 'battle' which she found emotionally challenging not only when thinking about the potential ramifications for herself and her child but also what she described as the 'stigma' of 'having to have a child' using sperm donation.

*I really battled with that yeah, it's the whole stigma of 'I can't believe this has happened to me', ...the fact that I was single for so long number one and then this issue of, 'are you actually telling me that I have to have a child this way?', It seemed so just really weird to have to say that the way I conceived my child was through using sperm which got couriered across America.*

*Leona 39, Single, Mother*

The emotional strain and disappointment associated with the possible use of donor sperm was present in the accounts of other participants such as Aleen and Amber who commented that they would find conceiving with donor sperm hard to 'accept' as it would make them feel like a 'failure'.

*It would be hard for me to accept that I am going to have to get and use a sperm donor or do it with a friend or something like that. I would feel like such a failure if I had to do something like that.*

*Aleen 35, Single, Non Mother*

*It was really like because there is a real, oh I'm getting all emotional talking about it, there is a real quite sense I feel of failure about using donated sperm personally.*

*Amber 39, Single, Non-Mother*

#### 8.4.4 Disposal intentions

Twenty-three of the participants discussed what they intended to do with their eggs should they never require them for themselves in the future. An overwhelming majority (87%) of the women stated that they would donate their unwanted eggs to research or to other women and only a small amount of women stated that they would want their eggs to be allowed to perish. However, several women indicated that they would find the process of relinquishing their eggs, and therefore possibly any further chances of having



a child, quite difficult and wouldn't necessarily know when they would feel ready to do so.

*It definitely would be a difficult process, it definitely would be a process to really think through that and come to terms with yes I'm finally letting go of that last opportunity to reproduce something biological. I'm not saying I wouldn't do it but it wouldn't just be something that I decided in a second, like oh yes, get rid of them. I think it's something I would probably have to work through and think about*  
Katie 38, Single, Non-Mother

*If I had two kids I would be like yeah I don't need these eggs anymore. I think it would be hard to trash them or something but if I was donating them to research I would feel that that was like a useful place.*  
Anne 36, Single, Non Mother

*I am quite practical so I think if you can help in that area and you have got something like that yeah probably I probably would it would be a bit of a tussle emotionally but I would.*  
Holly 38, Single Non-Mother

As the quote above from Anne indicates, the wish felt by the participants to donate their eggs was often linked to their desire to be helpful and see their eggs go to good use.

*I can if I want, apparently I think, bequeath my eggs to someone else and I like that idea. I like the idea that I might be able to do something positive with those eggs, whether it's for research or whether it's for someone who knows me. I like the idea of that, I don't know why but I do.*  
Johanna 42, Single, Non Mother

*I would like to use them to help women find out more about fertility I would give them to the clinic and say can you do something to help them find out more about their function.*  
Mary 49, In a relationship, Non-Mother

Whilst the majority of participants wished for their unwanted eggs to be used by others in research or treatment, a small number of women (n=3) stated that they would want their eggs disposed of should they never require them. This was because the idea of an unknown stranger raising what they felt would be their child was something they felt unable to consider.

*Thought that someone half me is being brought up by someone else and I wouldn't know anything about it oh I would find that really tough!*

*Livvy 37, In a relationship, Mother*

*If I answer the question honestly...I don't think I could have a person running around that was part of me and feel ok with that.*

*Rae 39, Single, Non-Mother*

However the high proportion of participants wanting their eggs to be donated in one form or another to assist the treatment of others may be partially explained by the fact that almost half of the participants disclosed an awareness of friends and or family who had encountered difficulties conceiving. It may therefore be possible that this, coupled with their own experience of egg freezing, sensitised these women to the emotional pain and suffering of unwanted childlessness and thus made them more inclined to donate their eggs to others. Whilst this finding is interesting, it is of course important to remember that these are only the current *intentions* of these women and not their *actions* which may ultimately differ. Furthermore, the nature of social egg freezing means that these women may not consider relinquishing their frozen eggs to others for another five years or more or when they are sure they no longer need them.

## 8.5 Summary

This chapter has provided an in depth exploration of women's experience of egg freezing, examining women's attitudes and feelings prior to undergoing the procedure, how they prepared themselves and their body for the process and how they coped with and managed the physical and emotional impact. This chapter has also explored how women negotiated the disclosure of the procedure to friends, families and intimate partners, as well as the effect that completing egg freezing had on their future hopes and expectations with regards to motherhood. This chapter closed by examining women's

perceptions and intentions towards single motherhood via sperm donation as well as their intentions towards their eggs should they not require them in future fertility treatment.

The next chapter will draw together the research findings and discuss them in relation to sociological concepts and theory.

## 9. Chapter Nine: Discussion

### 9.1 Introduction

The overall aim of this study was to explore how women experience social egg freezing and how they construct and understand their experience in the context of ongoing debates around ‘delayed motherhood’ and reproductive ‘choice’. This research also sought to provide much needed insights into how women perceive social egg freezing, its associated risks and benefits, how it relates to ideologies of motherhood and their own future reproductive intentions, as well as how they experience their encounter with clinicians performing social egg freezing. Chapter five presented the findings generated from the media analysis and chapters six, seven, and eight discussed the findings of the semi structured interviews with the research participants. This chapter discusses the findings from the empirical exploration of social egg freezing and draws on theoretical insights utilising Layder’s theory of domains (Layder, 2006), and Rose’s theory of governmentality (1990; 1998; 1999; 2007), to propose a theoretical and conceptual understanding of the phenomenon of social egg freezing.

This conceptual and theoretical discussion will explicate my original contribution to knowledge and will demonstrate how, utilising Layder’s theory of domains as an organising framework, it is possible to provide a nuanced understanding of the phenomena of social egg freezing as well as provide detailed insight into women’s experience of reproductive timing. I focus on three of Layder’s four domains: ‘contextual resources’, ‘situated activity’ and ‘psychobiography’. This discussion will demonstrate how by foregrounding the domain of contextual resources it is possible to explore relevant concepts of socio-economic status, gender, biomedicalisation and reproductive ideologies as they influence reproductive timing and the practice and utilisation of egg freezing technology. I will argue that the phenomenon of social egg freezing is influenced by the political-economic doctrine of neoliberalism which, alongside discourses of individual responsibility and ideologies of reproduction, influences women’s perceptions about the ‘right’ time for motherhood. I will also suggest that the potentially transformative nature of egg freezing as a form of biomedicine means that under neoliberal rationality this technology, like others before it such as IVF, becomes difficult to refuse particularly for individuals whose social

position affords them 'privileged access'. However, clearly this technology is currently only being used by a very small proportion of the female population. Thus this chapter will articulate how, in order to have a fuller understanding of this phenomenon and to help explain why only some women are making use of this technology, it is important to examine the subjective and intersubjective phenomena affecting women's experiences of reproductive timing. This will be achieved by examining the influence of Layder's domains of situated activity and psychobiography. The exploration of the domain of situated activity will illuminate the inherently relational nature of reproductive timing and will emphasise the way in which decisions about parenthood are negotiated within intimate relationships. It will also examine the gendered relations involved in these negotiations. The chapter will then examine the domain of psychobiography. This domain explores what Layder described as an individual's 'life situation' which refers to a social actor's 'general feeling, tone and state of mind' about their personal circumstances (1997:28). It will therefore consider the personalised and subjective experiences that I suggest may influence an individual's perceptions and beliefs about motherhood as well as social egg freezing. I will argue that an individual's personal and unique life trajectory (such as their family relationships) is likely to influence their own unique attitudes, values, ideals and dispositions and thus affect how they respond to the elements discussed in the other domains. Finally, it is argued that Layder's concept of 'critical experiences' allows a potential explanation of why specific women undertake the costly and invasive process of egg freezing.

Through the use of 'selective focusing', the discussion which follows explores in detail three of Layder's four domains. Compared to the discussion of the other domains, the examination and exploration of the domain of contextual resources is longer in length and depth. The emphasis afforded to the domain of contextual resources reflects the sociological focus of this PhD and the fact that part of this research included a media analysis. In this study, the domain of situated activity is explored through the examination of participant accounts of negotiating parenthood and reproductive timing in intimate relationships. However, as these negotiations were not observed by myself as a researcher, and men's accounts of reproductive timing were not examined, a comprehensive exploration of this domain was not possible. Similarly, a shorter examination of the domain of psychobiography is provided here, since an in-depth exploration of the individual psychological nature of this domain was beyond the

purview of this sociological PhD. Figure 12 provides an indication of the key themes explored within each domain.

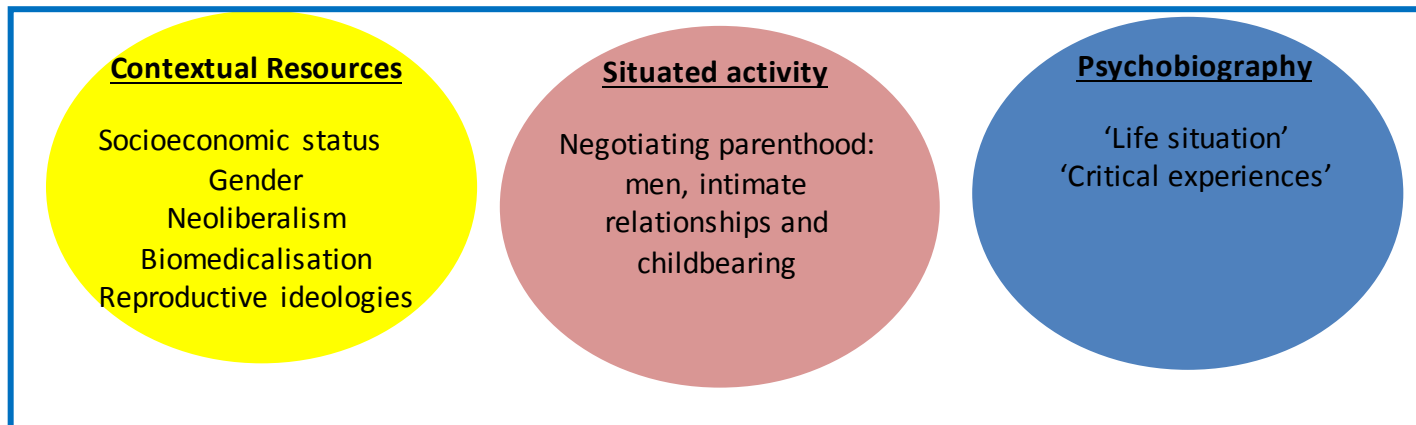


Figure 12: Thematic representation of domain theory as explored in this thesis.

Prior to an exploration of these domains and key themes, the chapter will briefly discuss the significance of neoliberalism as an important context for the discussion which follows.

## 9.2 Neoliberalism

In his widely cited and highly influential texts 'Governing the Soul' (1990), 'Inventing our Selves' (1998) and 'Powers of Freedom' (1999) and Politics of life itself (2007) Rose provides a comprehensive discussion of the constitution of power and the history of the modern self by examining the history of freedom and power as well as the enactment of power over the ages. He shows how the political subject has been governed through practices of normality, rationality, discipline, surveillance, and civility and how freedom has also been conceptualised and experienced as discipline, solidarity and most recently as autonomy through the means of consumption. The notion of freedom as autonomy is the starting point for this discussion, which aims to demonstrate how reproductive timing and the use of egg freezing technology is significantly mediated by what Rose (1993) refers to as 'advanced liberalism' or what is also referred to by others as neoliberalism (Braedley and Luxton, 2010; Schrecker and Bamba, 2015).

Neoliberalism can be traced back to the 1970s when in the UK and USA neoliberalism took as its target not only the economy but society itself as something to be restructured in the image of the market. Often associated with the politics of Margaret Thatcher in the UK and Ronald Reagan in the USA, neoliberalism is about the transformation of

social, political and economic values favouring the 'rolling back' of the powers and responsibilities of the state, away from a providing social state and towards that of an enabling state (Brown and Baker, 2012). Under neoliberalism the state becomes no longer responsible for providing for the individual and instead the individual shares more in the responsibility of providing for themselves. By devolving the power over the direction of a political subject's life from the state to the individual, the expectation was that this would render the political subject free, empowered and positively encouraged to construct their own lives through their personal choices (Hamann, 2009). Under neoliberalism, pressure is therefore placed on the social actor to engage with their biographical project of self-realisation (their lives) as a project or enterprise which requires self-work, reflection and active engagement. The neoliberal individual is therefore required to negotiate their own path through social life via the investment in, and development of, desired skills, abilities and qualities which make them flexible and adept in the unstable ever changing social market (Brown and Baker, 2012).

The following discussion will begin by exploring how it is possible to understand and theorise women's use of egg freezing as influenced by the political-economic doctrine of neoliberalism which I suggest is a significant contextual resource.

### 9.3 Contextual Resources

Embracing both the distributional and historical accumulation of cultural resources, the domain of contextual resources is often remote from the point of view of the individual but has a significant role in shaping an individual's lifecourse. The distributional aspect focuses on the ways in which material resources can be seen to be allocated in society often unequally between groups based on macrosociological forms such as socio-economic status, ethnicity or gender. The other element of contextual resources refers to the accumulation of cultural resources such as media representations, cultural values, ideals and knowledge. The contextual resources which this research takes as its interest include distributional aspects such as macrosociological forms of gender and socio-economic status and as well as cultural resources including neoliberalism, biomedicalisation and reproductive ideologies.

As Layder notes, domains should be understood as independent but also as inherently interconnected. One way to see the links present between the domains is when considering the contextual resource of gender which Layder notes, as a

macrosociological form, is part of the distributional aspect of this domain. This distributional aspect influences, but does not determine, the way other domains are experienced (Layder, 2006). Gender is identified in this discussion, and in the figure above, as a key contextual resource due to the way it has a significant effect on the participants' experiences of the phenomena under examination. Issues which are inherently gendered are featured throughout this discussion which makes their examination and reporting under one domain inappropriate due to the repetition this would incur. The gendered dimensions that this discussion will examine include: the gendered assumption that women face a biological imperative or mandate to reproduce through notions of hegemonic femininity which still equate womanhood with motherhood; the burden which falls disproportionately on women to ensure a healthy conception; how women and women's bodies bear the burden of medicalised fertility technologies and medical surveillance and shoulder what Roberts (Roberts, 2009) refers to as 'reproductive responsibility'; the gendered 'risk knowledge' ovarian reserve tests generate, which women are disproportionately encouraged and expected to exert agency and control over through technologies such as egg freezing; gendered parenting practices; and gendered inequalities and power differences in heterosexual intimate relationships. Thus gender as a contextual resource permeates all aspects of the participants' accounts. These gendered aspects are discussed through the examination of the other domains, rather than in one singular place, to prevent repetition.

The discussion of the domain of contextual resources will begin by examining egg freezing as a form of neoliberal consumption, it will then theorise egg freezing as a form of biomedicalisation and will consider how this technology is reforming (in)fertility and women's experience of their fertility. This discussion will then explore what I suggest is the imperative character of social egg freezing; something which the participants felt the need to engage with to quell the fear of the future.

### **9.3.1 Egg freezing as a form of neoliberal consumption**

As discussed in chapter five (see 5.8.3) the media analysis demonstrated how a feature present in almost all the newspaper articles was the gendered assumption that there was a biological imperative for women to reproduce and that women alone were responsible for ensuring conception. This responsibility for conception was interwoven with discourses of blame and failure on the behalf of women who 'failed' in their duty to



protect their fertility (see 5.8.5). This notion of failure is significant as in a neoliberal context health and the responsibility for health are located within the individual, and being healthy or being 'well' becomes a moral obligation, a responsibility and an individual project requiring self-investment and performance (Crawford, 1977; Lupton, 1994). The presence of moralising discourses around egg freezing were identified in the media analysis where in chapter five it was shown how newspaper articles advocated the use of medical tools and treatments such as ovarian reserve tests to help women *'pinpoint your own personal deadline'* (Article 10) and thus be active in planning and managing their fertility. In this chapter it was noted how women's individual responsibility for ensuring conception was effectively foregrounded in many of the news articles by situating women as being the only actor able to improve, protect or preserve fertility. Whilst many of the articles discussed female fertility, there was very little discussion of male fertility or what men could do to maximise their own fertility and increase the chances of a successful conception. These highly gendered media messages therefore demonstrate how it is women and women's bodies which bear the burden of surveillance and reproductive technologies and shoulder what Roberts refers to as 'reproductive responsibility' (2009:785).

As discussed in chapter six, the research participants were invested in a particular motherhood experience which they wished to attain and which was key to their biographical project and sense of self. For these women, motherhood at the wrong time or with the wrong partner was seen as a threat to their ontological security but also to their biographical project. The participants' accounts reflected a strong subscription to neoliberal values of responsibility, self-actualisation and self-determined action. This was reflected in the interviews where participants such as Sofia remarked how they believed they took an active role in planning and managing their lives and were, as she described, *'go getters'* who did not *'lead their lives as witnesses'*. In a remarkably similar observation, Franklin (1997) detailed the account of one of her participants who had undergone IVF who she noted 'strongly characterises herself as a doer, a seeker' (1997:170). When faced with the risk of unwanted childlessness as a result of ovarian ageing, participants drew on egg freezing technology as a resource to manage and mitigate against the risk they perceived their ageing body posed to the furtherance of their biographical project. Furthermore, their desire to manage this risk in such a way could be interpreted as reflective of neoliberal values which prioritise individual responsibility and action in the face of 'risk knowledge'. The risk knowledge relevant to

these women was the threat that ovarian ageing posed to their reproductive potential and consequently how it increased their risk of childlessness. These participants encountered this risk knowledge through their relationship with other women who had struggled or were struggling to conceive, but also through their exposure to media articles which discussed issues relating to women's fertility.

As discussed in chapter five, this research identified how media articles on the topic of egg freezing commonly carried messages about the risks associated with delayed childbearing and older motherhood. Through the use of specific lexical choices, over lexicalisation of personal pronouns and certain quotation verbs, women in particular were constructed as responsible for managing the risks associated with declining fertility. These articles carried messages calling women to '*be proactive in their decision making*' and accused those 'unwilling' to demonstrate such responsibility and forethought of '*playing Russian roulette with their fertility*' (see section 5.8.3). This call to, or expectation that they, take responsibility for their fertility meant that when faced with a declining ovarian reserve, participants were left with limited options: to have a child in circumstances which they deemed unsuitable, to choose to remain child free whilst looking for a suitable partner, or to engage with egg freezing technology in an attempt to preserve reproductive potential for future use. The highly 'rational' strategy of using of egg freezing in this way can frame the consumer of such technology as a strategic, choice making, responsibilised individual; as an entrepreneur who can access and afford elective procedures and treatments and deploy them in a means to achieve their biographical project.

This notion of taking action against age-related fertility decline through the use of egg freezing was reflected across several of the participant accounts where they described themselves as '*taking matters into my own hands*' (Anne), or making an '*active decision*' (Helena) as well as '*taking control of the situation rather than just let it ride*' by doing '*something constructive...something proactive*' (Johanna) or as Mabel noted by doing '*something responsible, cutting edge and proactive*'. Similar sentiments can also be found in Franklin (1997) where participants note, with regards to undergoing IVF, 'at least I have tried, that's how I feel, I have done by best' (Franklin, 1997: 170). In order to demonstrate how reproduction, alongside neoliberal ideologies, draws on such entrepreneurial qualities and discourses, (Krolokke and Pant, 2012) developed the concept of the 'repreneur'. I suggest that the notion of the female user of egg

freezing as a repreneur reflects the neoliberal values of 'responsible' self-determined action present in the participant's accounts. Such a characterisation also reflects how medicalised fertility treatment is constitutive of the neoliberal ethos and can be seen as a further means by which individuals can transform themselves through consumption (Mamo, 2009).

The pressure placed on social actors to engage with their biographical project of self-realisation through the mechanisms of the market reflects how, in neoliberal governmentality, social behaviour is conceptualised along economic lines. The notion of egg freezing as a form of consumption is reflected in the language used in its discussion, which is laden with market-based and economic references and metaphors (Romain, 2012). For example, in chapter seven (see 7.5), participants described egg freezing as an *investment*, and as a form of *insurance*, as something they hoped would *buy* them time should they *bank* enough eggs. Furthermore, and as seen in chapters five and seven, the language which underpins much discussion of egg freezing in the media as well as by the users of this technology themselves highlights how fertility is constructed as a commodity bought or invested in, in order to further ensure a more favourable outcome for the user in the pursuit of self-actualisation. Egg freezing technology proffers new and enticing ways to produce not only hopeful orientations towards the future but also helps render an individual woman's past meaningful. This is because, unlike most 'infertile' female users of ARTs who have undergone months or even years of non-conceptions, miscarriages and failed IVF cycles, female users of egg freezing are most often apparently reproductively healthy women who had expected or imagined that motherhood would be part of their lives only to be 'let down' by a lack of a partner or the right circumstances under which to pursue motherhood. As such, several of the participants described previous relationships and periods of time spent as single women as time 'wasted' and, as discussed in chapter six (see 6.6), experienced emotional discord and confusion with 'still being single' in their late 30s or early 40s. What egg freezing offered these women was a greater, more optimistic, orientation towards the future where options regarding motherhood and the performance of heteronormative family traditions remained intact and within reach.

### 9.3.2 Egg freezing as biomedicalisation

Prior to the advent of ARTs, social science literature of the 1960s and 1970s most often framed the experience of involuntary childlessness as a social problem defined by the unwanted absence of children (Becker and Nachtigall, 1992) and the experience of infertility was something that the sufferer was forced to live which, whilst disappointing for many, was unchangeable (Earle and Letherby, 2002). However, following the development of IVF in the 1970s and ICSI in the early 1990s, there was a shift from the social problem of involuntary childlessness to the medical problem of infertility (Becker and Nachtigall, 1992). This shift, and the way that medicalised fertility treatment has become increasingly normalised and routinised, not only in the clinic but also among wider publics, reflects how the social and private lives of social actors have become increasingly dominated by biomedicine (Clarke, 2010).

The gendered medicalisation of women's bodies in the reproductive domain has been noted by many authors in reference to prenatal screening (Rothman 1986) and childbirth (Oakley, 1980), as well as reproductive technologies such as IVF (Spallone and Steinberg, 1987; Stanworth, 1987; Becker and Nachtigall, 1992). As increasing numbers of women and couples delay parenthood, the problem of infertility, particularly age-related infertility, has emerged alongside the 'ageing population' as a significant modern social problem. As such the decline in women's fertility, which was once framed as a natural process, is becoming reconceptualised as a medical 'problem' in need of a solution or techno-medical fix.

Whilst several authors have suggested that social egg freezing is another form of medicalisation of women's bodies (Martin, 2010; Shkedi-Rafid and Hashiloni-Dolev, 2011; Mertes, 2013), the specific dimensions of this technology, particularly its transformative possibilities, technoscientific nature, and the way it has the potential to incite action on behalf of the potential user also reflect an intensified process of medicalisation which Clarke et al have referred to as biomedicalisation (2003; 2010). Clark et al suggested that during the mid-1980s the nature of medicalisation changed as new technoscientific innovations emerged which began to 'transform biomedicine from the inside out' (2003:164). They noted how, whilst medicalisation was co-constitutive of modernity with the desire for enhanced control over external nature (the world around us), biomedicalisation is co-constitutive of postmodernity with the desire to

extend this control by harnessing and transforming internal nature: 'life itself' (Rose, 2007). Thus whilst the concern of medicalisation was the reinstating of normal reproductive ability via IVF, biomedicalisation takes as its focus the transformation of bodies and lives through technologies which go beyond restoring 'normal functioning', such as egg donation, womb donation and egg freezing, and thereby provide new 'customised', 'individualised bodies' (2003:169). This process that sees the extension of biomedical investment from disease and illness to enhancement and transformation also reflects how social actors are increasingly encouraged to see themselves as biomedical subjects (Pitts-Taylor, 2010).

A further significant shift between medicalisation and biomedicalisation concerns the way in which the latter focuses not on illness, disability and disease as matters of fate, but instead conceive health as the ongoing management and treatment of risks to health through screening, classifications, risk assessments and the commodification of health as a lifestyle ideal (Clark et al, 2003). Thus the scope of biomedicalisation is broader than that of medicalisation through its expansion to include risk surveillance and management. Through the use of ovarian reserve tests such as measurements of anti-Mullerian hormone and antral follicle counts, women can receive allegedly scientific 'predictions' about their total fertility potential which they may use to make decisions about whether to delay conception or engage ARTs such as IVF or egg freezing (Tremellen and Savulescu, 2014). Whilst these technologies are in fact unable to predict the onset of menopause and only measure egg quantity and not quality (Maheshwari, Fowler and Bhattacharya, 2006; Domingues, Rocha and Serafini, 2010), they appear to render risks to women's fertility monitorable and manageable and thus position women as able to make 'informed' reproductive decisions. As Van de Weil (2014) has suggested, the active orientation towards the future which this requires means ovarian reserve tests and social egg freezing can be understood as a form of 'biopreparedness' (2014:119). However, as one of the participants (Johanna) noted, having this information is not useful *'if there aren't any mechanisms to support the decisions that you might make because of that'*. Thus for Johanna, as well as perhaps many other women, having such personalised fertility information may not be useful if there is little women can do to conceive any earlier.

Through the promotion and use of such technologies, health becomes a moral responsibility for the neoliberal citizen; the body becomes disciplined by the medical

gaze and is increasingly the site of biomedical intervention. However, not only is the scientific validity of such tests of fertility questionable, the access to such technologies and procedures remains highly stratified, reliant on an individual's ability to pay for what has been termed 'boutique medicine' (Clarke et al, 2003:181). Therefore, only economically empowered groups are able to access technologies such as egg freezing to enable individual transformations through biomedicine. The demographic profile of the research participants, which was discussed in chapter six, demonstrated how all the participants were educated to degree level, with 68% of the sample holding additional professional or postgraduate qualifications. All but one of the participants, who accessed the procedure through a freeze and share programme, paid for the procedure privately and ten of the participants paid for multiple cycles of egg freezing. The demographic profile of the research participants reflects findings of other studies that have found that female users of egg freezing are often highly educated, holding a minimum of an undergraduate degree (but often further professional and postgraduate qualifications), working in professional occupations often earning in excess of £55,000 per year (Perl and Zwahlen, 2012; Waldby, 2015b).

Whilst the information provided by ovarian reserve tests comes from recent and relatively advanced technological developments, individualised information about fertility is also increasingly accessible to women through self-surveillance and body monitoring such as through the use of fertility 'apps' which enable women to record intimate information about cervical mucus, menstrual cycles and basal temperatures (Lupton and Thomas, 2015; Thomas and Lupton, 2015). These technologies, along with the development of new 'pro-fertility clinics' such as those recently developed in Denmark, reconceptualise women as having 'personal IDs' of 'low risk, medium risk or high risk' of unwanted childlessness (Birch Petersen et al., 2015; Hvidman et al., 2015). Therefore, through new assemblages of technologies and treatments such as egg freezing and egg donation but also through self-governance, individuals are encouraged to engage in self-monitoring and surveillance. This can be achieved by drawing on the appropriate self-help and new biomedical possibilities to enable the 'transformation of bodies to include new properties and identities' (Clarke et al, 2003:180), thereby creating new biomedicalised subjectivities.

The availability of such technologies and the way they have become utilised for self and lifestyle improvement purposes reflects a biomedical governmentality which calls for

individuals to ‘know thyself’ and can be seen as being (re)produced by neoliberal discourses which promote self-action, taking charge of one’s health. Furthermore, ‘there is an emerging moral space developing...where failure to invest now may result in moral recrimination later’ (Brown, 2006). As such, these messages of responsibility for oneself and one’s future lead some women to feel ‘compelled to try’ egg freezing technologies in the same way that Sandelowski (1991) originally characterised the ‘need’ felt by sub fertile women to engage in IVF treatment.

### *9.3.2.1 Compelled to try and difficult to refuse: the reforming of (in)fertility*

As discussed in chapter seven, the reasons participants gave for engaging in egg freezing were multi-layered. However, the fear of future regret was cited by over a third of the participants as a significant factor that led them to ultimately undergo the procedure (see 7.4.2). Several authors have discussed the role of anticipated decision regret with regards to the use of assisted reproductive technologies and have noted how the fear of future regret can serve as a major factor motivating couples, but particularly women, to undergo, and persist with, treatments such as IVF (Tymstra, 1989; Sandelowski, 1991; Franklin, 1997; Throsby, 2004; Tymstra, 2007). I argue that part of what makes technologies such as egg freezing so compelling is the neoliberal rationality which underpins its use. Specifically, the fact that as a sign of responsible citizenship the neoliberal consumer is required not only to account for risk, but is expected to take action to mitigate against this risk and be responsible for any inaction as well as bear any related penalties (Adams, Murphy and Clarke, 2009).

Through the advent of ARTs, but particularly though technologies such as egg freezing and ovarian reserve testing, risk knowledge has become highly individualised (Tymstra, 2007). Women with the financial means and with a particular demographic profile (middle class, educated, single, professional women in their 30s and 40s) bear new obligations to consider these new technologies associated with their ‘privileged access’ (Sandelowski, 1991:32). This particular mandate to integrate a decision about ovarian reserve testing or egg freezing into their biographical project is bound by the socio-economic location of the individual and their socio-historical location. An individual who could not afford the procedure, or who experienced age-related fertility decline before technologies such as these rendered it visible, would have experienced significantly less pressure to ‘take action’ against their declining fertility as: ‘you cannot

be responsible for what is not at your disposal and over which you have no power' (Adam, 2008). Furthermore, like Sandelowski's assertion that IVF technology rendered infertility treatable and thus unwanted childlessness 'less tolerable and even more regrettable' (1991:33), egg freezing too has begun to frame age-related fertility decline in women in a similar way. Ovarian ageing is now seen as something undesirable which a responsible neoliberal citizen should experience a moral injunction to anticipate and mitigate against.

The imperative to engage in 'positive ageing' practices including the maintenance of active healthy bodies through diet and exercise can be seen to have become extended with new technologies such as anti-ageing surgeries (Brooks, 2010). Fertility technologies such as egg and ovary freezing could also be seen in this way. Research examining women's attitudes towards aesthetic anti-ageing surgery has shown how the availability of new technologies can reshape perceptions of normal and acceptable ageing (Brooks, 2010). Brooks noted how for the participants in her study 'what had been felt and perceived to be a natural, normal, and even universal process (ageing) was increasingly experienced as pathological, as a problem in need of fixing and repair' (2010:247). A parallel can be drawn with egg freezing: what has previously been seen as a natural part of ageing has become constructed as a medical problem with a medical solution. Thus, via egg freezing, reproductive ageing in women becomes perceived as something which agency can be exerted over, which can be manipulated. Martin (2010) argues that the medicalisation of fertility in this way has led the period in a woman's life of 'assumed fertility' to be replaced with a new ontological category of 'anticipated infertility' (2010:529). As such, she notes how the 'normal' stage of fertility disappears and what remains are the two pathologies of anticipated infertility and infertility, both of which require management and treatment in order to fulfil normative social expectations of motherhood. As a category, anticipated infertility is expansive and applicable to many if not most women who have not been diagnosed as infertile. It can be argued that this new condition of anticipated infertility becomes 'treatable' by egg freezing. In this way it is possible to see how this technology, like IVF before it, holds so much appeal. In neoliberal rationality, managing such a pathology becomes not just possible but potentially imperative.



### *9.3.2.2 The imperative character of egg freezing*

As demonstrated in chapter seven, whilst the research participants framed their decision to freeze eggs as a personal 'choice', they simultaneously reported feeling that the possibilities offered by egg freezing were difficult to resist. In her research which examined the 'victim-blaming' of individuals with chronic illness, Galvin (2002) identified how discourses of risk in neoliberalism converge to produce specific outcomes. Galvin noted how in neoliberalism, risks shift from the external to the internal: social problems are transformed into individual concerns and the individual, a person's body, is seen as the site of social problems rather than the wider social context. She further noted how the avoidance of risk is equated with empowerment; this clearly reflects much of the marketing of egg freezing technology seen in the UK and USA and reflects the findings of the media analysis in chapter five. Galvin also identified how by not taking action to avoid risk, and by failing to draw on specialist knowledge, an individual can be blamed for his or her illness. Thus I argue that for the participants, egg freezing took on an imperative character, something which needed to be engaged in to quell the fear of the future and manage what Chandler (2011; 2012) has referred to as 'the tyranny of the possible' (2011:908). This imperative character comes both from what egg freezing technology can offer women but also from the consequences of resisting its use. This is because under neoliberal rationality, the rejection of egg freezing leaves the female non-user accountable for the risks posed by their non-engagement or 'refusal' and, as seen in IVF, open to criticism for not doing enough or falling short in demonstrating their commitment to motherhood (Throsby, 2004).

Chandler (2011) identifies three mechanisms by which she suggests a sense of obligation towards a technology is created: competition, adaptation and dependency, in addition to the normalisation and moralisation of its use. Chandler (2011; 2012) suggests how, in combination with the ideology of technological progress, new medical interventions and procedures can become difficult to refuse through a process of normalisation and eventual moralisation of their use. Arguments in support of new technologies, particularly in support of new reproductive technologies, are often underpinned by the inevitability and value of scientific progress and the indefensibility of standing in its way, thereby muting criticism and aiding the incorporation of new technologies into culture. As new technologies become rationalised and normalised,

judgements about their use but also their refusal become relevant to consider. Chandler notes how this idea is encapsulated by the following observation from Dennett:

*'The more we know, the more we can do; the more we can do, the more obligations we face'* (Dennett, 2004)

Thus, as authors such as Britt (2014), Sandelowski (1991) and Throsby (2004) have noted, the advent of ARTs and the normalisation of in vitro fertilisation means there is the greater hope and expectation that infertility can, and should, be overcome. As a result, under neoliberal rationality, the active and engaged citizen is positioned as owing it to themselves to at least try to conceive using this technology. It can be argued that egg freezing has now also taken on an imperative or even obligatory character for those with 'privileged access' as something which must be engaged with so the user is safe in the knowledge that they had, to quote Charlotte (chapter seven), '*done everything possible*' to ensure that motherhood remains an option for themselves in the future. This desire to 'do everything possible' was reflected across over a third of the participants' accounts with participants such as Aleen and Katie remarking that it was important for them to engage with egg freezing so in the future they did not regret not making use of the technology when it was available to them.

The moral judgement associated with the engagement or non-engagement in IVF is arguably amplified when considering the use of egg freezing. This is because egg freezing has the potential to protect against the risks and costs of older motherhood to the potential child, the mother, and the state. Therefore, resisting this technology could be seen not only as going against the social value of self-determined action but also could be interpreted as going against a possible future societal consensus that the technology should be used to avoid these risks and costs. As exemplified by work from Rothman (1986) and Rapp (1999) on amniocentesis, the introduction of new technologies can impact on the perceived risks of pre-existing embodied experiences. It is possible to see how technologies such as amniocentesis, caesarean section, and preimplantation genetic diagnosis have begun, or have already completed, the transformation from a once elective technology to a more socially expected and routinised form of treatment. However, I suggest that egg freezing is yet to be framed in quite this way, in the UK at least. This is in part due to the status of egg freezing as an experimental technology (in the UK context) but also because freezing for non-medical reasons remains a procedure which can only be accessed through self-payment or

through an egg-sharing agreement: it is not publicly funded by the NHS. However, given that in the USA egg freezing is not designated as an experimental technology, and is available through some private healthcare packages, and is also financed by several major employers, it is important to monitor how this technology is received and incorporated in such a context as this may provide an early indication of the way in which the imperative character of the technology may be extended.

The following section will explore two further elements from the domain of contextual resources: macrosociological forms such as socioeconomic status and cultural resources such as parenting ideologies, which can be understood as influencing women's perceptions of the right time for motherhood and, for some women, their use of egg freezing technology.

### 9.3.3 Socioeconomic status and the role of 'preconditions' for parenthood

Egg freezing technology like many ARTs is not accessible or accessed by all social strata and this procedure is engaged in primarily by more highly educated, middle class women. Using the data collected from the demographic questionnaire, chapter six provided a discussion of the demographic profile of the research participants. In this chapter it was shown how the users of this technology were highly educated, most often worked in professional and managerial roles, and were single at the time of freezing their eggs. As discussed in chapter three, much of the research literature on reproductive timings has identified how both women and men seek to have certain conditions in place prior to attempting childbearing such as having completed education, being entitled to the full scope of parental leave and sharing or owning a home suitable for childrearing (Lampic et al., 2006; Bergnéhr, 2007; Sol Olafsdottir, Wikland and Möller, 2011). In chapter three it was noted how perceptions about the right time for motherhood vary by socioeconomic status and how the discussion of appropriately timed motherhood is often marked with reference to particular middle class milestones which include university education, travel, internships and training, professional careers and home ownership. This study has identified similar findings with respect to the preconditions which the participants sought to have in place prior to pursuing motherhood.

As described in chapter six, the majority of the participants suggested that motherhood was something they expected to encounter at the 'right' time in their lives. However, the

participants framed the right time for motherhood not as occurring at a particular age or stage in their lives, but instead when they felt ‘ready’ to take on the role of mother. Similar to other studies examining reproductive timing (Marsiglio et al., 2000; Benzie et al., 2006; Lampic et al., 2006; Bergnéhr, 2007; Sol Olafsdottir, Wikland and Möller, 2011; Eriksson, Larsson and Tydén, 2012), the participants associated being ready for motherhood as linked to the accumulation of specific resources which were seen as necessary to perform the motherhood role properly. These resources therefore acted as preconditions which ideally needed to be fulfilled before pursuing motherhood. The preconditions identified by participants included having: completed formal education and become established in a chosen career; a secure job and income; a home (ideally one they owned) suitable for childrearing; a suitable partner who shared their desire for parenthood; and the experience of living as an independent, childfree adult.

As we saw in chapter six, several of the participants suggested that they wanted to become mothers in the near future as they felt they were now ready to commit to the motherhood role. This was in part because they felt that they had experienced important parts of life as a childfree adult such as travelling, pursuing educational study, professional development and other social activities and now felt ready to relinquish these opportunities in order to become a mother. The quote from Aleen above reflected this sentiment when she noted: *‘I have travelled a lot. In the work I have done a lot of stuff, been to a lot of places seen a lot of things. I feel like I have experienced a lot of life so it doesn’t bother me that I won’t be out every Saturday night down the pub, so in that respect I kind of feel I am ready’*. Thus the participants’ accounts reflected the individualist assumption, if not expectation, that prior to becoming parents, people should experience a period of self fulfilment and exploration, engaging in pursuits and activities that parenthood may otherwise inhibit.

The impact of the social expectation that women should first invest in education, career building and financial stability prior to childbearing is significant especially given the extended amount of time it is likely to take to achieve such goals and it has been noted how these time-consuming investments are also likely to further create a disjuncture between the ideal time socially to have a child with the ideal time biologically (Perrier, 2013; Daniluk, 2015; Lemoine and Ravitsky, 2015). However, spending time accumulating the resources considered necessary for childbearing was seen as important to the participants for two reasons. Firstly because such a period would enable the

individual to collate resources and experiences which could enhance not only their own lives but also the lives of their children, i.e. completion of higher education and professional employment, and secondly because doing so could minimize any resentment and regret about missed experiences after taking on the role of parent. As Rae noted, and as discussed in chapter six (6.4.1), it was important for her to complete her education and become stable in her career before marrying and having a child as she felt strongly that she did not want to have to rely on a male partner for security. Jen similarly noted that it was important to her to become established in her career and financially secure before having a child as she believed by doing so she could best provide her child with a stable home. The desire to engage in these pursuits prior to parenting, particularly those related to professional employment and home ownership, reflects a highly individualized approach to the lifecourse. However, these desires and values are also significantly mediated by the socioeconomic and educational status of the participants and the opportunities that were available to them as a result. For the participants, and seen clearly in the case of Katie and Claudia who both pursued doctoral level study, motherhood at the wrong time (particularly too early) was seen as something which would have disrupted or curtailed the opportunities, experiences and freedoms they had experienced as young middle class, and in some cases privileged, adults. By contrast for other women such as those outside of my research, particularly those from less economically empowered groups, motherhood earlier on in their lives may be less likely to disrupt their lifecourse expectations. This is may be because cultural ideals such as home ownership and professional employment would be out of reach for these less privileged women regardless of the timing of motherhood or these ideals would not be considered as something important or significant to achieve prior to pursuing motherhood.

#### 9.3.4 Reproductive ideologies

As Ameling (2015) recently pointed out, reproduction affects 100% of the population and even those individuals who do not wish to become parents have to contend with strong cultural presumptions about parenthood (Ameling, 2015). These cultural presumptions continue to include the expectation that all women will eventually become mothers and those who do not are somehow deviant or less feminine (Letherby and Williams, 1999; Gillespie, 2000; Letherby, 2002b; 2003). The following discussion will examine a number of reproductive ideologies that are defined as culturally valourised

ideals and beliefs about the production and performance of parenthood which are influenced by gender and socio-economic status. The reproductive ideologies which will be explored, and which were relevant in this research, are the ideologies of intensive motherhood and new fatherhood as well as inherently gendered ideologies associated with the motherhood mandate (Russo, 1976) and hegemonic femininity.

All of the research participants had achieved some success and security in their professional lives, many were financially stable, had travelled and become emotionally ready to commit to motherhood. However, what the participants reported as 'absent' from their lives, was a suitable partner who shared their desire and commitment to parenthood. For these women the lack of a suitable partner with whom to pursue parenthood meant that the 'right' time had not yet arrived. As we saw in chapter six, this was primarily because many participants sought to 'do motherhood' in a particular way: at the right time and with a committed and supportive male partner. Such desires mirror normative expectations around motherhood and heteronormative ideals of the family. However participants' accounts also reflected the ascription to certain cultural, but also gendered, values around parenthood, specifically the expectation or desire to engage in 'intensive mothering' practices (Hays, 1998) and the desire for a partner who exhibited values associated with 'new fatherhood' (Henwood and Procter, 2003).

The expectation of the participants to mother 'intensively' is arguably mediated by the socioeconomic status of the participants. Intensive motherhood is considered the dominant mothering ideology of privileged, married, middle class mothers (Hays, 1998; Romagnoli and Wall, 2012; Granja, da Cunha, Manuela Ivone P and Machado, 2014). The participants noted how their age, coupled with their financial and professional security, meant that they would be able to perform motherhood in a way that would not have been available to them at a younger age. However, to achieve such an ideal, to have the time, energy and resources to invest in motherhood, the participants also desired a committed partner equally engaged in fatherhood. The role of men in planning for parenthood is explored in more detail below in the discussion of the domain of situated activity, however it is important to note here how the participants' desires about parenthood included not only expectations about how they sought to go about mothering, but also included ideologies of fatherhood.

Daniluk (2015) has argued that women disproportionately experience a social responsibility to ensure that children are born in to and are raised within the context of a

secure, loving two parent family. Having the full commitment of their partner to parenthood and for parenthood to be a mutual desire and joint endeavor was very important to all of the participants. As well as seeking to pursue motherhood jointly with a male partner, the participants also sought for their partner to be heavily engaged in the raising and caring of children. As such, I suggest that the participants sought a male partner who exhibited characteristics associated with what has been termed 'new fatherhood' (Henwood and Procter, 2003).

Societal changes over recent decades have shifted the expectations of men regarding their engagement and emotional commitment to the family (Henwood and Procter, 2003; Brid Featherstone, 2009; Dermott, 2014). Men are increasingly expected to be actively engaged in the emotional practices around preparing for parenthood as well as being a 'hands on father' after the birth of a child. Thus fatherhood culture has shifted beyond that of the authoritarian disciplinarian to one much more involved in care (Hinton and Miller, 2013). As described in chapter six, such an image or expectation of the emotionally involved father as an ideal model of fatherhood was held in high regard by participants and reflected their own desires when seeking a partner with whom to pursue parenthood. Women sought a relationship with a male partner who shared their desire and commitment to parenting and who would be heavily involved in all aspects of the parenting project from pre-conception through to raising the child. However, for many of the participants it was this lack of an appropriate partner who they believed would be able to embody such ideals which had led them to not yet pursue motherhood. For other participants who were in relationships at the time of freezing eggs, their perception that their partner may not want to become a father, or their belief that the relationship may not be the right one in which to pursue motherhood, also contributed to their decision to pursue egg freezing as an alternative.

Whilst most participants reported wanting to pursue motherhood in the near future and had long assumed motherhood would be part of their lives, around a fifth stated that they wanted or needed more time to determine whether motherhood was something they actually wanted to pursue. As discussed in chapter six these women reported feeling much more ambivalent about motherhood and some discussed how they struggled to determine whether they felt a genuine desire to become a mother or were responding to gendered cultural assumptions that they would one day have a child. This motherhood imperative or mandate for motherhood (Russo, 1976) was something which was

experienced more acutely by women such as Preeti and Kanta whose family backgrounds meant that their non-motherhood status was seen as particularly unusual for a woman of their age. However even participants such as Katie who stated she did not feel under any pressure by friends or family to become a mother nevertheless sought to freeze her eggs to 'keep the option of motherhood open' should she ever change her mind. This was important for several of the participants, such as Johanna, who anticipated that they might feel differently about motherhood should they meet the 'right' partner. Thus for these women, motherhood and their feelings about becoming a mother were heavily dependent on their future relationships with male partners. This unwillingness to give up any chances for future motherhood even when feeling ambivalent about becoming a mother seemed to be influenced by two key factors. Firstly the participants were concerned that they might meet a partner in the future who wanted children and they would not be able to conceive, or as Johanna described it: *'turn up to that party and not have anything to offer'*. Thus by freezing their eggs these women were hoping to retain a degree of reproductive 'value' which could be drawn upon in future relationships. Secondly, the participants were unwilling to relinquish their reproductive potential because they feared they may one day change their mind about motherhood especially if they met the 'right' partner. The fear felt by the participants that they may one day 'change their mind' about motherhood is reflective of heteronormative expectations about marriage and motherhood and hegemonic ideals of femininity which still equates womanhood with motherhood. In her fieldwork examining social egg freezing Romain (2012) noted how for her participants having their own children with husbands who they loved constituted a particular kind of success. In this example this success was tied to how it enabled women to engage in the successful performance of hegemonic femininity.

Whilst the preceding discussion has examined the influence of macro-level phenomena on the decision to undergo egg freezing, the following discussion will examine the micro, subjective and inter-subjective phenomena which influenced the participants' decisions about reproductive timing and use of egg freezing technology. This will begin by discussing the inherently relational nature of reproductive timing through the examination of the domain of situated activity.



## 9.4 Situated Activity

The domain of situated activity takes as its main concern the way individuals respond to their social environment and how individuals engage in, create and respond to action in the social world. This domain tracks the encounters between individuals, which can be evanescent, intermittent or regularised (Layder, 2006). The situated activity that this research takes as its interest is represented by the relations between women and their intimate male partners, specifically the negotiation and discussion which takes place about planning for, or considering, parenthood and the gendered power relations involved in such activities.

### 9.4.1 Negotiating parenthood: men, intimate relationships and childbearing

The majority of the participants stated that at the time of freezing their eggs, becoming a mother was something they were sure they wanted to pursue and for many it had been something they had always presumed would be part of their life. This notion of motherhood as an eventual experience reflects the ways in which many women assume maternal futures, but currently men are not subject to the same pressures and expectations (Hinton and Miller, 2013). Whilst fatherhood is still part of many men's normative expectations, currently very little is known about their concerns, understandings or experiences of child desire or of fatherhood (Culley, Hudson and Lohan, 2013; Marsiglio, Lohan and Culley, 2013). Furthermore, little is known about the role men play in the process of delaying childbearing or how men's intentions and actions impact both directly and indirectly on women's decision making (Dudgeon and Inhorn, 2004).

As discussed above, the participants' accounts reflected a desire to mother with a committed male partner who would be able to live up to ideals of new fatherhood. However, many participants reported a disjuncture between their expectations or hopes of men in the procreative realm (Marsiglio, Lohan and Culley, 2013) and the men they actually met and formed relationships with. In reality they reported that they found men to be less interested in having a family and instead more concerned with engaging in more individual pursuits. As seen in chapter six, participants such as Lacey described several of the men she met as 'eternal bachelors' who were unwilling to 'change their lifestyle' to accommodate parenthood. This perceived lack of interest and engagement

conflicted with the participants' desire to jointly pursue parenthood with an equally invested male partner and contributed to the participants' decisions to not pursue parenthood with current or previous partners who they deemed inappropriate.

Several participants attributed such a perceived lack of interest in pursuing fatherhood as due to the longer period of time which men had to become parents compared to women, as well as men's interests in pursuing other forms of self-actualisation separate from fatherhood. This was the case for Claudia who reported how her current partner, who was several years younger than her, had stated that he did not yet want to pursue fatherhood, which conflicted with her desire to pursue motherhood as soon as possible. Similar problems were encountered by Mary who reported how her new partner did not yet want to become a father and instead sought to pursue an international sporting career despite the fact that they were both approaching the age of 50. Chapter eight (see 8.4.2) explored participant reflections on the egg freezing process and examined Claudia and Mary's suggestion that women who had undergone egg freezing should not tell new partners that they had frozen their eggs so to prevent men from trying to delay parenthood any further. Thus, decisions about the timing of parenthood had been significantly influenced by the situated activity between women and their intimate partners and by the sometimes conflicting desires of their male partners when it came to parenthood.

In addition to perceiving previous and current male partners as unwilling to settle down and commit to having a family, a small number of participants also articulated how they believed that, as women, they held less power in romantic relationships than men, particularly in relation to progressing the relationship beyond a merely casual setting. This perception reflects research which has demonstrated that both women and men believe that there can be an unequal distribution of power in intimate relationships which sees men having more control over the relationship than women (Felmlee, 1994; Sprecher and Felmlee, 1997; Abowitz et al., 2009). This unequal distribution of power may be linked to biological factors such as the greater period of time which men have before having to commit to parenthood or may reflect the dominance of men in society more generally (Abowitz et al, 2009). As discussed in chapter six, this disjuncture between women's expectations of male partners in the context of the family and men's presupposed desires, as well as the double standard of reproductive ageing between women and men, can be seen to work against women as the dating market and process

of relationship formation becomes increasingly secularised, individualised and impersonal (Abowitz et al., 2009; Waldby, 2015b). Furthermore, as discussed at the end of the last chapter, the participants reported having to carefully negotiate the discussion of parenthood with partners or potential partners. They suggested that disclosing to a partner or a potential partner they had frozen their eggs could indicate either they were 'baby crazy' and wanted a child straight away, or that it was ok or safe for their partner to 'put off' pursuing parenthood, both of which were perceptions the women wanted to avoid. However, despite the potential for, and experience of, negative responses from men, several women indicated that by having their eggs frozen they felt they constituted a better 'option' or candidate in what Romain has referred to as the 'market place of marriage' (2012:191).

The final domain under examination is the domain of the psychobiography. The following discussion will examine how differences in responses to the messages promoted by neoliberalism may be in part explained by a social actor's personalised, unique and subjective experiences of the social world which influences their beliefs about motherhood as well as social egg freezing. This final section will also explore the key concepts of 'life situation' and 'critical experiences' and will examine how these concepts can be used to understand women's use of egg freezing technology.

## 9.5 Psychobiography

Central to Layder's notion of psychobiography is the idea that social actors have a unique trajectory throughout the lifecourse, complete with different experiences that influence their 'attitudes, ideas, values and dispositions' (2006:76). Thus, Layder notes that small differences between individuals can influence a person's psychosocial development and therefore shape the way they respond to social experiences. In his theory of domains, Layder notes how, as self-reflexive agents, individuals have private desires and needs which can lead them to act in ways contra to social expectations. As unique beings, Layder suggests that individual actors are constituted entirely by subjective emotions, as well as skills and resources which then affect the means by which individuals engage with elements from other domains. In the context of this research I suggest subjective experiences such as the participants' relationships with their families and friends, their upbringing, associated values and dispositions, and their

anticipated lifecourse trajectory affected their perception of motherhood and also egg freezing technology.

### 9.5.1 Life situation and personal values

Layder describes an individual's network of relationships, their feelings, tone, and state of mind about their lives as a person's 'life situation' and notes how a person's life situation 'registers' how well a person is coping with circumstances and events in their life (2006:280). Most of the participants' accounts reflected a shared assumption that motherhood would be part of their lives. As such when they reached their late 30s and early 40s several participants described how they felt they had come 'off course' from the expectations they had held about their lives and the direction their lives would take. Whilst research examining infertility has shown how interruptions to the reproductive lifecourse are commonly experienced by individuals, but particularly women (Friese, Becker and Nachtigall, 2006), as a form of biographical disruption (Bury, 1982; Ulrich and Weatherall, 2000; Exley and Letherby, 2001; Letherby, 2002a; Earle and Letherby, 2007; Hudson, 2008), for the research participants, their experience of not yet being mothers is better characterised not as a disruption but instead as an unwanted deviation from their expectations about motherhood. This is because at the time of freezing their eggs no event or happening, such as a diagnosis of infertility, was preventing them from achieving motherhood. Instead what the participants experienced was an unwanted deviation from their expectations about how their lives would unfold. This deviation occurred for most women as they had been unable to find an appropriate partner with whom to have a child.

In their discussion of their non-mother status, some participants commented how they felt different from their friends who had settled down, married and had children and suggested that they were somehow behind in the social expectations of marriage and motherhood. Thus for these women their appraisal of their own 'life situation' was that they were somehow behind their peers, or off course, from their shared expectations about family building. For example, Shu commented how she believed people might perceive that she had 'regressed' when she chose to live in a flat share following the breakup of her marriage. However, other women did not feel their position was unusual, for example Hayley who commented that she still knew many women her age who were also single and childfree as well as women who had children at an older age. For these

women, their subjective perception of the actions of those around them affected their sense of the urgency with which they should pursue motherhood or egg freezing.

When describing their expectations about motherhood, the participants sometimes referred back to their own upbringing and family environment either to note how they would or would not like to provide their offspring a childhood similar to their own. For example, Rae discussed how she would not want to be a single mother, as she was brought up in a one parent household, and therefore felt strongly that her child should be brought up with a mother and father. Thus the perceptions of the 'best', but particularly the undesirable, ways to go about motherhood reflected the participants' personal histories. For example, Claudia described how her mother's long term disdain for single mothers meant she felt unable to consider such an alternative means to become a mother. Similar comments were echoed by several of the participants including Ellen and Effsie, as discussed in chapter eight, who in particular described how the age of their own mothers, but also the quality of the relationship that they felt they had with them, meant they were unable to consider pursuing single motherhood as they believed they would not receive the support they imagined they would require to bring up a child alone. Alternatives to egg freezing such as motherhood through donor sperm and IVF were also seen as impossible for participants such as Shu and Preeti who commented on how their religion or, as Shu described, her 'Asian roots' 'wouldn't reconcile' with motherhood pursued in such a way. Ellen similarly noted how her Catholic upbringing and closely held values about the sanctity of the family also meant that single motherhood was not an option she felt able to consider. Therefore, for these women their individual life experiences and personal values significantly shaped how they perceived alternative options to egg freezing.

### 9.5.2 The role of critical experiences

A further means by which Layder suggests the psychobiography influences the responses of actors in the social world is through what he terms 'critical experiences'. Such experiences include: the death of a loved one, illness or a psychological trauma as well as the experience of serious or life altering accidents. These critical experiences, which he also referred to as critical 'incidents' or 'events', are similar to Giddens' concept of 'fateful moments' (Giddens, 1991). Layder described critical experiences as 'non-routine and often unpredictable' which often require 'substantial modifications of self-

identity to enable to person to adjust to the changed circumstances<sup>28</sup> (2004:139). These experiences may not appear critical at the time of their happening, or in and of themselves, but seem so retrospectively from the position of the narrator of these experience.

The relevance of critical experiences is significant to this research as for 84% (n=26) of the participants there appeared to be some specific issue or event which propelled them to undergo the procedure. This included a relationship breakdown, a recent birthday, a recent health scare, a fertility related diagnosis such as endometriosis or becoming aware for the first time about the efficacy of egg freezing for older women. I suggest that for these participants such events can be seen as critical experiences which affected both the way in which they responded to and 'brought to life' (Layder 2006:282) aspects of the domain of contextual resources but also that acted as independent factors which gave rise to action in the social world. These critical experiences served as impetuses for some of the participants to pursue the procedure that many of them had been considering for several months and in some cases years. These critical experiences brought to life, or made more acute, aspects of the domain of contextual resources which further disposed them towards the use of egg freezing technology. For example, participants such as Sofia remarked how female users of egg freezing were likely to be used to taking an active role in planning and managing their own lives, reflective perhaps of the ideals associated with neoliberalism. Therefore following an event such as a relationship breakdown or diagnosis of a fertility or health problem, which would intensify their need for increased control and time to find a new partner, she described egg freezing in the face of reproductive decline as something that could be done to try and ensure motherhood in the future and prevent the engagement in panic partnering practices in the present.

Thus whilst participants such as Sofia had been considering egg freezing for several months prior to undergoing the procedure, it was the critical experience of having a diagnosis of a fertility problem that she responded to as a form of risk knowledge and sought to manage or mitigate against through egg freezing. As discussed in chapter seven, over 20% (n=7) of the participants stated that an underlying fertility or health

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28 Authors such as Sandelowski (1991) have noted how the experience of infertility and of medicalised fertility treatment even for women who have successfully become mothers can be permanently scarring and irrevocably change a person's perception of who they are.

issue played a significant role in their decision to undergo the procedure. The underlying fertility problems disclosed by women included endometriosis, polycystic ovary syndrome, blocked fallopian tubes and the loss of an ovary from a previous illness. This suggests that the boundaries between egg freezing for medical and for social reasons may be more porous than first anticipated and demonstrates how, for these women, the decision to pursue egg freezing for solely social, i.e. non-medical reasons, does not adequately reflect their accounts or characterise their experiences.

While women in Western societies live with the influence of the domain of contextual resources and the discourse and ideologies of neoliberalism and biomedicalisation, and may have similar experiences in the domain of situated activity, the impetus of specific aspects of the psychobiography such as specific critical experiences may help to understand why some particular women undertake this procedure. The concept of critical experiences demonstrates how 'while domains have their own distinct characteristics and properties, they do not operate separately or autonomously' but have 'links and continuities between them' (Layder. 2006:282).

## 9.6 Worked example of domain influences- 'Aleen'

The theorisation provided above has explored three of Layder's four domains and has discussed in detail how elements of the domains shaped women's perceptions of reproductive timing and their use of egg freezing technology. In order to demonstrate these domains and the potential links between them more clearly, a 'worked example' is provided below using the account of one participant: Aleen. Figure 12 provides a visual summary of Aleen's account organised by the domains included in this analysis. Using quotations taken from the interview transcript, it is possible to see how Aleen's use and experience of social egg freezing can be mapped using domain theory.

### Psychobiography

#### **'Life situation'**

*I was going to be married at 28, I had my ideal person my ideal job the age I was going to be having a baby I had worked out but none of it had actually come to fruition.*

*I was brought up in a very family orientated Irish environment, so you know everybody has children and if you don't...I would feel like if I don't go on to do that that I have not fulfilled the potential of my life, that would be my view from my background. I am not saying that that is necessarily right because other people will have been brought up in different environments but that is the one I have been brought up in which affects probably my psychology around this and how I think about it all.*

*I feel a lot like I am a failure, but I am not because I have a really good job I have got lots of friend I have kind of travelled the world, but on another level I am. Like I don't have a partner, I don't have children, so you are a failure*

#### **'Critical experiences'**

*I think my mum and dad tried to have me for five or seven years and they had a miscarriage before me and in the end when my mum did conceive me she had almost her whole pregnancy, seven months of it, she spent in hospital...I had never had myself checked out so I was a bit like oh you know what if I am like that, so she had me at 33 she died at 66 I am now 33 so I had all these things kind of going round in my head. So I was like right ok I went on holiday I came back and I was like right I am going to do it. I inherited £12,000 from her estate so I was kind of like well that's enough for me to do this.*

### Contextual Resources

#### **Neoliberalism**

*I would rather get to 38/39 and feel I have done everything that I can in my power. It's like, I suppose it's like a control thing, and maybe that is a lot to do with it I don't want to get to a certain age and think I have not done as much as I think I can... If it comes about that actually I can't (have children) I would be devastated*

#### **Preconditions for parenthood**

*I know people have single parent families, and maybe I will end up doing that, but my ideal would be to have both sets of parents looking after the child as a unit so in that respect no I don't think I am ready because I don't have the family environment which I would want to bring up a child in.*

*I feel like I have experienced a lot of life, so it doesn't bother me that I won't be out every Saturday night down the pub... I have been out every Friday, Saturday and Sunday night*

*it's not like I can look back and think haven't lived*

#### **Socio-economic status**

*It is because we want to have a certain type of life with our children and do certain things with them and take them to certain places. I see my friends with their children, yes they take them out and take them to the park but do they do things with them like I will with my children? No, and it is because they have not been exposed to it.*

*So I do think there is a class thing to settling down with children younger if you are from a working class background...family is something you*

*aspire to. Do I think I have got the ability now to care and financially look after a child and to give it the best start in life with all the things I would want it to have? Absolutely! Could I have done that in my 20s?*

### Situated Activity

#### **Negotiating Parenthood: men intimate relationships and childbearing**

*When I was 28 I was like ok, I've got the job, got the flat, but not got the partner but then my mum got sick at 29... I don't regret how I spent those 4 of 5 years but I do think, I am not blaming my mum for not being in a stable relationship, but I do think that...I could only cope with one thing and I couldn't cope with you know the hassle of meeting people going out with them for a month or two getting dumped and all the shit that comes with that.*

Figure 13: Worked domain example-Aleen



Aleen was an account manager for a large multi-national company who had undergone one round of egg freezing at 33 years of age and was soon starting a second cycle. Unlike several of the other participants such as Jen, Amber and Claudia, Aleen had not been in a serious relationship which she had expected would lead to motherhood. Whilst she had been in intimate relationships in the past, none of these relationships had been long term and Aleen had spent a large part of her late 20s and early 30s caring for her mother who died when Aleen was 33. In the interview Aleen noted how during this time she did not have the ‘emotional energy’ to seek out an intimate relationship and commented how since her mother died she had found finding a partner difficult due to what she saw as the impersonalisation of online dating. Thus for Aleen the elements in the domain of situated activity, such as the relational nature of reproductive timing and planning for motherhood, were perhaps not as significant in influencing her decision to pursue egg freezing as elements from other domains, such as those from the domain of contextual resources.

As with the majority of participants, Aleen’s account reflected a clear subscription to neoliberal values of self-actualisation, responsibility and self-determined action and like a third of the sample she cited fear of future regrets as one of the reasons for undergoing the procedure. For Aleen, as with all of the participants, her desire for a child was strongly linked to the desire to pursue motherhood with a committed male partner; this formed one of her key preconditions for parenthood. She also reflected in the interview how she felt she would be ready for motherhood when she had such a partner as she had already enjoyed what she saw as the benefits of a childfree life and was prepared to give this up in order to pursue motherhood.

Aleen strongly held on to what she described as her ‘working class roots’ and noted how she was unlike a lot of her friends who had become parents earlier on in life. She talked at some length about how her career had meant that she had been able to travel the world and experience different cultures and she suggested that in the future she wanted to do things with her children, take them places and provide them experiences which she believed her friends, who were not working in professional jobs, would not consider or see as important. Thus Aleen commented how she believed that the timing of motherhood was often linked to socio-economic status. Aleen further suggested that it was better for her to pursue motherhood at an older age than in her 20s as she believed

she would be better able to provide for her child and give them what she saw as ‘the best start in life’.

When interpreting Aleen’s account, we can see the particular importance of the domain of psychobiography. As figure 13 demonstrates, personal elements from the domain of the psychobiography such as her perception of her own ‘life situation’ significantly influenced her decision to freeze eggs. Furthermore, her upbringing and familial expectations, which placed a high value on motherhood and the family, influenced how she perceived motherhood but also non-motherhood.

Aleen, like 84% of the sample, experienced something significant that prompted her to undergo the procedure: a ‘critical experience’. For Aleen this was the death of her mother and receiving a small amount of inheritance which she was able to use to cover the cost of the procedure. Aleen was also one of the 15 participants who spontaneously disclosed that they had known someone who had experienced difficulties when trying to conceive and had undergone some form of fertility treatment. In Aleen’s case this was her mother and it served to heighten Aleen’s awareness of infertility so she feared that she too may struggle to conceive. Whilst Aleen stated that she sought to freeze her eggs for social reasons, like 20% of the women in the sample she also had an underlying fertility problem (polycystic ovary syndrome).

## 9.7 Conclusion

As the above discussion has demonstrated, the decision to undergo social egg freezing, like other reproductive decisions including use of contraception, pursuing a termination of pregnancy, or actively trying to become pregnant, is constituted by a complex set of social relations. This discussion has theorised women’s engagement with social egg freezing using Layder’s theory of domains. This has enabled the conceptual mapping of a constellation of factors influencing women’s use of this technology and has helped formulate a nuanced, detailed and original understanding of women’s use of social egg freezing. This formulation goes beyond current, often reductionist, arguments that women are simply and strategically making use of this technology to deliberately avoid or delay motherhood in order to pursue education and career goals (Gorthi et al, 2010) or that the lack of a partner is the ‘key’ to explaining social egg freezing. (Hodes-Wertz (2013, Nekkebroeck et al, 2013). By drawing on all the elements identified in the

discussion above, it is possible to understand women's engagement in egg freezing as the outcome of both macro and microsociological factors relating not only to their social location with regards to their socioeconomic status and gender but also related to reproductive ideologies of parenthood, relationships with intimate partners and men's fathering intentions as well as the neoliberal rationality which I have suggested underpins its use. This theorisation may also help in an understanding of the context of the timing of parenthood more broadly and provides an alternative way to think about 'delayed' motherhood, not as simply the outcome of women's 'choice', but as a process involving a complex interrelation of discourses which contextualise women's decision making in the reproductive realm.

This thesis has demonstrated the complex ways in which women's and men's reproductive choices and desires are intertwined and constrain and influence one another. It has shown how the desires of men and women for parenthood intersect and produce specific reproductive outcomes, and how this interaction takes place across the domains as described by Layder. This discussion has demonstrated how cultural values and discourses associated with parenting from the domain of contextual resources (such as ideologies of parenthood) influence interactions with intimate partners and their relationships in the domain of situated activity. Furthermore, this discussion has shown how interaction between participants and their partners, or potential partners, was also influenced by women's psychobiographies which, in several cases, were informed by significant relationships such as the ones they had experienced within their own families.

The next and final chapter presents the conclusion to the study and provides some reflections and recommendations for further research in this field.

## **10. Chapter Ten: Conclusions, reflections and recommendations**

### **10.1 Original contribution to knowledge, reflections and research implications**

The overall aim of this thesis was to explore how women understand, construct and experience social egg freezing within the context of ongoing debates around delayed motherhood and reproductive timing as well as notions of reproductive ‘choice’. This research also sought to provide new insights into the ways in which users of this technology perceived the risks and benefits of social egg freezing and explore the ways in which their use of this technology shaped their attitudes and intentions towards motherhood. This research also aimed to explore a key aspect of the social context in which egg freezing has occurred by critically analysing the way in which UK print media frame and discuss the issue of egg freezing and the women who undertake it.

Drawing on an adapted approach to Layder’s theory of social domains, and through the use of selective focusing, this research has examined in detail the domains of contextual resources, situated activity, and psychobiography. This project utilised a multi-method approach, using three data collection strategies: a content and critical discourse analysis of media articles on the topic of egg freezing, semi-structured interviews with users of egg freezing technology and the use of a short questionnaire to gather the participants’ demographic information. These data collection strategies were chosen as they were the most suitable means to interrogate the particular domains of interest to this research.

By examining social reality across three of Layder’s domains: psychobiography, contextual resources, and situated activity, this research sought to ‘combine the analysis of social activity with the institutional forms which provide their backdrop’ (Layder 1993: 200). This approach to data collection and theorisation enabled the development of a nuanced, detailed and original understanding of women’s use of social egg freezing which goes beyond current, often reductionist, arguments that women are strategically making use of this technology to deliberately delay motherhood in order to pursue education and career goals or that the lack of a partner is the ‘key’ to explaining social egg freezing. Instead this thesis has shown how women’s engagement with social egg freezing is shaped by both macro and micro sociological factors including ideologies of

parenthood, an individual's social location, relationships with intimate partners and men's fathering intentions, within the context of neoliberal rationality. This theorisation provides a challenge to current understandings around delayed motherhood and suggests that women's use of social egg freezing should not be seen simply as the outcome of women's 'choice', but as a process involving a complex interrelation of discourses which contextualises decision making in the reproductive realm.

As discussed in chapter five, the media analysis undertaken for this research identified how the dominant reasons for women's use of social egg freezing as presented in the media were those relating to career. This finding reflects the prominent idea, as identified in other news media research (Budds, Locke and Burr, 2013), that women consciously choose to delay motherhood for reasons related to their career or personal development. However, the findings of the interviews in this study strongly challenge this representation. By contrast the accounts of women who had used social egg freezing demonstrated that they were keen to convey that their working lives or career had not influenced their decision making regarding motherhood and had not solely driven their use of social egg freezing. Many of the participants also rejected the suggestion that social egg freezing infers a deliberative 'choice' to delay motherhood: another common media representation associated with the technology. By contrast, many participants had sought to become a mother, in some cases for many years prior to freezing their eggs and several had previously been in relationships, which they had expected to lead to motherhood, only for the relationship to breakdown. Thus this research presents a significant challenge to the suggestion that women are engaging with egg freezing to deliberately put off motherhood in order to pursue career advancement.

In addition to identifying the dominance of discourses relating to 'career' as an explanation for women's use of social egg freezing, the media analysis identified how the absence of a male partner was seen as key in explaining women's engagement with this technology. Whilst the absence of a male partner was cited by many of the participants as an important factor, the interviews demonstrated how this alone is not sufficient in helping to understand women's decisions. Instead it was the absence of a particular *type* of partner, one equally committed to parenthood and who would live up to certain cultural ideals of fatherhood, which led women to engage in social egg freezing.

Whilst the role of men as intimate partners has often been omitted from the discussion of social egg freezing, this research suggests that men, and the relationships women have with men, should be considered as highly relevant in understanding women's use of this technology. This is because it was very important for all of the participants to have what they perceived to be the full commitment of their partner to parenthood and for parenthood to be a shared desire and mutual endeavour. As well as seeking to pursue motherhood jointly with a male partner, the participants also sought for their partner to be heavily engaged in the raising and caring of children and to participate in what Henwood and Procter have termed 'new fatherhood' practices (2003:337). This image of new fatherhood is now well established in parenting studies literature and in public and policy discourse (Dermott, 2001; Tanaka and Waldfogel, 2007; Rush, 2013); the latter of which emphasises the importance of fathers in the provision of care. This image of the new and involved father was held in high regard by the research participants. However, many women reported a disjuncture between their expectations or hopes of men in the procreative realm (Marsiglio, Lohan and Culley, 2013) and the men with whom they actually met and formed relationships. In reality they reported that they found men to be less interested in having a family and instead more concerned with engaging in more individual pursuits. This perceived lack of interest conflicted with the participants' desire for a partner equally invested in parenthood and contributed to their decisions to avoid parenthood with inappropriate partners. This research therefore demonstrates the complex ways in which women's and men's reproductive choices and desires are entwined and constrain and influence one another.

As well as challenging media speculation around social egg freezing, the findings from the in-depth interviews also countered other commonly held assumptions related to the technology. Whilst social egg freezing is routinely interpreted as the decision to freeze eggs for non-medical reasons, over 20% (n=7) of the research participants disclosed an underlying fertility or health issue as affecting their decision to undergo the procedure. These included endometriosis, polycystic ovary syndrome, blocked fallopian tubes and the loss of an ovary from a previous illness. Other participants were diagnosed as being at a high risk of premature menopause or had a high incidence of other serious illness, such as cancer, in their family. These participants had identified themselves as freezing their eggs for social reasons, yet underlying this decision was the perception that their fertility or general health may already be compromised. This suggests that the distinction between egg freezing for medical and for social reasons may be more porous

than first anticipated and demonstrates how, for some of the women, the decision to pursue egg freezing for solely social, i.e. non-medical reasons, did not adequately reflect their accounts or characterise their experiences.

Commentators on social egg freezing have often assumed that women's use of the technology is driven by their desire to maintain a genetic relationship with their future offspring which alternatives such as egg donation or adoption do not permit (Goold and Savulescu, 2009). Whilst this study did identify a desire on behalf of the participants to bear genetically related children, what appeared equally as important, and which is often omitted from the literature, was the significant importance these women placed on their child also sharing a genetic relationship with their partner. This helps explain why women seek to make use of egg freezing rather than the more effective technology of embryo freezing; because they are seeking a genetic relationship, not just between themselves and their child, but instead are seeking to create a family where the genes are shared between both parents.

The development and use of reproductive technologies such as egg donation and surrogacy has meant that post-menopausal motherhood has been a possibility for some time. However, the advent, and increasing normalisation of social egg freezing is further reshaping the possibilities of genetic motherhood beyond the limits of a woman's natural fertility. Simultaneously however, this technology also extends the definition of infertility to include those with 'anticipated infertility' (Martin 2010:529). The category of 'anticipated infertility' positions many, if not all, women who have not yet been diagnosed as infertile, as 'at risk' of future infertility. This repositioning of women as 'at risk' of infertility reflects a shift in the conceptualisation of reproductive ageing. Through social egg freezing, and allied technologies of ovarian reserve testing, what was once considered a natural process of ageing (fertility decline) becomes reframed as a medical problem requiring a solution or techno-medical fix. Technologies such as egg freezing are thus reshaping understandings of reproductive ageing as something which not only has a quantifiable basis, such as measurements of anti-mullerian hormone and antral follicle counts, but as something which can be monitored and managed.

By recasting reproductive ageing as something over which agency can be exerted, and which can be manipulated and managed, these technologies are positioning female users as able to make 'informed' decisions about the management of their own fertility. However, these technologies remain flawed. Ovarian reserve testing only provides

women 'predictions' about their total fertility potential, and egg freezing remains an experimental technology with low rates of success. As a result, the notion that social egg freezing can help women overcome the limits of biological time is potentially illusory as it pre-supposes the success of a technology where delivery of a healthy baby is far from a guaranteed outcome. Nevertheless, whilst these technologies remain in many cases unreliable, they present reproductive ageing as something which can, and crucially should, be managed and therefore locate women's bodies as the site of required clinical management and intervention.

Therefore, the way this technology is reframing fertility decline as a medical problem and women's bodies as the site of this 'problem, means that the responsibility for managing the risks of age-related fertility decline shifts from society as a whole to women as individuals. This not only requires women to bear greater responsibility for the timing of motherhood and the management of their fertility but also obscures the social, economic, relational and ideological factors which this research has demonstrated shapes and constrains the timing of parenthood for men and women. Furthermore, this discourse of individual responsibility also reinforces the timing of motherhood as the concern and responsibility of women to the exclusion of men's involvement, thereby ignoring the way women's and men's reproductive intentions and attitudes constrain and influence one another.

Social egg freezing is often seen as an attractive option due to the way it can potentially widen the period of time during which women can achieve genetic motherhood, however it does little to address the factors which gives rise to its initial use. This technology ignores the way decisions about reproductive timing are socially constituted and further responsabilises women for reproduction by overlooking the role of men in this process. As this research has shown, men's roles as potential fathers as well as intimate partners were critical to women's thoughts about the timing of motherhood. As such it is incongruous that technologies such as social egg freezing effectively further contribute to the removal of men from any discussion about the timing of parenthood.

In order to address the social conditions that give rise to women's use of this technology, and to enable women and men to engage in parenthood at a time most suited to themselves, shifts have to occur at structural, relational and ideological levels. However, social egg freezing does not currently enable or support these shifts and instead has the potential to create further burdens and responsibilities in the lives of



users and potential-users of this technology. In this sense social egg freezing can be seen as an inefficient individual and medical ‘solution’ to a ‘problem’ which is very much socially constituted.

## 10.2 Recommendations from the study

Whilst this research did not set out to make policy and practice recommendations some have nevertheless emerged and will now be explored.

As suggested above, egg freezing technology seeks to provide a medical solution to the problem of age-related fertility decline and the timing of motherhood; however, this should not be provided at the expense of other policies or solutions. Instead, this technology should be offered alongside initiatives such as shared parental leave. Furthermore, both women and men should feel supported in pursuing alternative means of family building such as through sperm donation or co-parenting where appropriate.

All the participants in this research were aware of age-related fertility decline at the time of freezing their eggs, however this research also identified how several of the women felt that prior to undergoing the procedure they had poor knowledge of fertility, age-related fertility decline and awareness of the efficacy of assisted reproductive technologies. Since the inception of this project much discussion has taken place in academic as well as public policy and educational contexts about women and men’s awareness of age-related fertility decline. A small number of initiatives have begun in the UK with clinicians facilitating fertility education workshops, in schools, for example (Create Fertility, 2016). However, whilst many of the participants in this research advocated for better fertility education they often disagreed about how this knowledge should be disseminated. These findings suggest that a sensitive approach should be taken in communicating this information to men and women throughout their reproductive lives to help ensure that they remain informed about the limits of their fertility. Cognisant to this however, policy makers and practitioners should also be aware that greater fertility education may not enable women or men who seek to become parents before their fertility declines if they do not currently have a partner with whom they can have a child, or if other social factors inhibit this decision.

Like IVF, there are currently no limits on the age at which women can undergo social egg freezing. Given that the efficacy of the technology reduces with age, women who are presenting for the procedure need to be encouraged to engage with the technology at an earlier age. These women should also be counselled on other options. Commensurate with this, clinics and companies offering this technology should not target their advertising at older women but instead those who have a greater chance of a positive outcome. This research suggests that users and prospective users should be informed as accurately as possible about the potential success rate for a woman of their age and be made aware of any gaps in current knowledge as it pertains to them.

During the research interviews, several of the participants commented that whilst they were generally happy with the treatment they received from the clinic, they believed that the clinics could better improve their handling of women undergoing egg freezing. Clinic practice could be improved by ensuring that clinic staff interacting with women are aware that they are undergoing egg freezing and not seeking to attempt conception and through the possibility of single women only clinic days or afternoons. Other options could also be longer clinic consultation times for women attending alone so they have enough time to understand the information they are provided and ask relevant questions. This research also advocates for an online space or forum for UK users and potential-users of this technology similar to US sites such as [eggsurange.com](http://eggsurange.com).

Finally, more impartial and accurate information about the technology as well the experiences of women who have undergone the procedure needs to be available in the public domain for user but also potential-user groups.

### **10.3 Research dissemination and future research directions**

#### **10.3.1 Research dissemination**

As appendix 12 demonstrates, I have presented my research to a significant number of different audiences including students, social scientists, clinicians, stakeholders, members of the press as well as the general public. I have also published two papers from my research, a literature review published in 2014 and a paper with some initial, mainly quantitative, findings in 2015. However, my main findings remain unpublished. It is therefore my intention to publish widely from my research in social science as well as in clinical and biomedical journals. These papers will present the empirical,

conceptual and theoretical findings from this research. I will also seek to publish some methodological reflections discussing the use of online interviewing, through the medium of Skype and Facetime, as a means to gather data.

In addition to submitting papers to peer reviewed journals I also aim to publish a research monograph. The aim of this monograph would be to make available not only the conceptual and theoretical findings and articulations of this research but also to communicate key empirical research findings to users and potential-users of this technology as well as policy makers and key stakeholders. Therefore, whilst this monograph will be an academic publication it will also be accessible to those outside of academia thereby increasing the reach of the research.

This book will explore the emergence and use of ‘fertility extension’ technologies such as egg freezing and ovarian reserve testing within the context of on-going debates around delayed motherhood and reproductive timing as well as notions of reproductive ‘choice’. It will present the accounts of the women interviewed for my research and will situate and discuss these accounts alongside relevant literature and theoretical and conceptual work in the field of medical sociology. Utilising Derek Layder’s theory of domains this book will provide a nuanced, detailed and original understanding of women’s use of social egg freezing which goes beyond current, often reductionist, arguments that women are strategically making use of this technology to deliberately delay motherhood in order to pursue education and career goals or that the lack of a partner is the ‘key’ to explaining social egg freezing.

The book will demonstrate how it is possible to understand women’s engagement with social egg freezing as shaped by both macro and micro sociological factors including ideologies of parenthood, an individual’s social location, relationships with intimate partners and men’s fathering intentions, within the context of neoliberal rationality. This book will also explore how, when faced with the ‘risk knowledge’ of their declining ovarian reserve, female users of this technology can be seen as enacting reproductive responsibility commensurate with neoliberal values of responsibility, self-actualisation and self-determined action.

During the completion of this doctoral thesis I was invited to be a panelist member at two public engagement events on the topic of social egg freezing. I was also interviewed by several members of the press about my research. This provided me with

an excellent opportunity to share my research with individuals outside of academia. As such I am committed to pursuing public engagement opportunities and exercises of this kind in the future.

### 10.3.2 Directions for future research

To date much research examining reproductive timing and women's reproductive intentions has drawn participants from predominantly middle class, white populations. There is therefore a need to examine the topic of reproductive timing beyond middle class populations, including less privileged groups of women.

This research has highlighted the inherently relational nature of reproductive decision making; however, little research has explored how couples negotiate the decision to become parents. Thus future research could usefully explore these dyadic negotiations. The sample used in this research has largely reflected the interests and desires of heterosexual individuals and as such does not explore lesbian, bisexual or trans women's perspectives on issues related to the timing of motherhood. Future couple centred research should include participants from diverse social groupings to explore if and how these negotiations differ in relation to age, social class, ethnicity as well as sexuality. Research examining the public perception of social egg freezing should also include diverse populations.

Currently little is known about the future reproductive decision making of users of social egg freezing; as such further research should follow-up previous users to examine how they make subsequent reproductive decisions. This research should explore whether women return to use their eggs in future fertility treatment, pursue other alternative routes to motherhood or choose to remain childfree, and the reasons for these different decisions.

In addition to enabling women to preserve their fertility for potential future use, egg freezing has the potential to transform clinical practices of egg donation, making it easier to facilitate larger numbers of egg donation cycles (potentially across geographic borders) without having to manage the logistics of timing two women's cycles simultaneously. Future research may therefore seek to explore the implications of this relatively new egg freezing technology on the provision and use of 'donated' eggs,

nationally and internationally but also explore other applications such as for individuals undergoing gender-reassignment surgery.

All of the participants in this research paid privately for the procedure or accessed the technology via freeze and share scheme however as companies such as Facebook, Apple, and Spotify offer to fund social egg freezing for their female employees, research may seek to examine the effect such employee incentives have on the uptake of egg freezing, but also explore the implications that resisting egg freezing has on women employed by these organisations.

As discussed in chapter four of this thesis, one of the limitations of this research, methodologically and also theoretically, is that this study did not explore Layder's domain of social settings in any depth. Had this study taken as its focus the fertility clinic itself, as well as clinic staff and healthcare professionals, as the site of meaning making and utilised an ethnographic approach to data collection, then the focus on social settings would have been greater. Thus, future research could usefully adopt such an approach, building on the ethnographic work undertaken by Martin (2010) and the small amount of research examining healthcare providers' perceptions of social egg freezing.

In addition to exploring healthcare providers' perspectives of social egg freezing, future research could also examine the ways in which this technology is marketed and presented in clinic literature as well as online. Given recent shifts in the use of hand-held devices and social networking, future research could also explore the ways users of this technology are presenting or documenting their experience of this technology online.

Finally, whilst this thesis represents a tentative beginning, more conceptual and theoretical work is needed to explore how technologies of ovarian reserve testing and social egg freezing are reconceptualising reproductive ageing and perceptions of reproductive control.

## References

- ABOWITZ, D.A. et al. (2009) Beliefs about romantic relationships: Gender differences among undergraduates. *College Student Journal*, 43 (2), pp. 276.
- ADAM, B. (2008) Future matters: futures known, created and minded. *Twenty-First Century Society*, 3 (2), pp. 111-116.
- ADAMS, V., MURPHY, M. and CLARKE, A.E. (2009) Anticipation: Technoscience, life, affect, temporality. *Subjectivity*, 28 (1), pp. 246-265.
- ADSEER, A. (2011) Where are the babies? Labor market conditions and fertility in Europe. *European Journal of Population/Revue Européenne De Démographie*, 27 (1), pp. 1-32.
- ALMELING, R. (2015) Reproduction. *Journal Annual Review of Sociology*, pp. 423-442.
- ALMELING, R. (2011) *Sex cells: The medical market for eggs and sperm*: Univ of California Press.
- AL-SAHAB, B. et al. (2012) Prevalence and characteristics of teen motherhood in Canada. *Maternal and Child Health Journal*, 16 (1), pp. 228-234.
- ALVESSON, M. and KARREMAN, D. (2000) Varieties of discourse: On the study of organizations through discourse analysis. *Human Relations*, 53 (9), pp. 1125-1149.
- ALVIGGI, C. et al. (2009) Biological versus chronological ovarian age: implications for assisted reproductive technology. *Reprod Biol Endocrinol*, 7, pp. 101.
- AMAN, R.R. and PARKS, J.E. (1994) Effects of cooling and rewarming on the meiotic spindle and chromosomes of in vitro-matured bovine oocytes. *Biology of Reproduction*, 50 (1), pp. 103-110.
- ANNANDALE, E. and HAMMARSTROM, A. (2011) Constructing the 'gender-specific body': A critical discourse analysis of publications in the field of gender-specific medicine. *Health (London, England : 1997)*, 15 (6), pp. 571-587.
- AQUILINO, W.S. (1991) Telephone versus face-to-face interviewing for household drug use surveys. *International Journal of the Addictions*, 27 (1), pp. 71-91.
- ARGYLE, C.E., HARPER, J.C. and DAVIES, M.C. (2016) Oocyte cryopreservation: where are we now?. *Human Reproduction Update*,.
- ARMUAND, G.M. et al. (2015) Women more vulnerable than men when facing risk for treatment-induced infertility: A qualitative study of young adults newly diagnosed with cancer. *Acta Oncologica*, 54 (2), pp. 243-252.
- BAKA, S.G. et al. (1995) Evaluation of the spindle apparatus of in-vitro matured human oocytes following cryopreservation. *Human Reproduction (Oxford, England)*, 10 (7), pp. 1816-1820.

## References

- BAKER, M. (2010) Motherhood, employment and the “child penalty”. In: *Women's Studies International Forum*: Elsevier, pp. 215-224.
- BAKER, S.E. and EDWARDS, R. (2012) How many qualitative interviews is enough.
- BALASCH, J. (2010) Ageing and infertility: an overview. *Gynecological Endocrinology*, 26 (12), pp. 855-860.
- BALASCH, J. and GRATACOS, E. (2012) Delayed childbearing: effects on fertility and the outcome of pregnancy. *Current Opinion in Obstetrics & Gynecology*, 24 (3), pp. 187-193.
- BALDWIN, K. et al. (2015) Oocyte cryopreservation for social reasons: demographic profile and disposal intentions of UK users. *Reproductive Biomedicine Online*, 31 (2), pp. 239-245.
- BALDWIN, K. et al. (2014) Reproductive technology and the life course: Current debates and research in social egg freezing. *Hum Fertil (Camb)*, 17 (3), pp. 170-179.
- BARBOUR, R.S. (2005) Making sense of focus groups. *Medical Education*, 39 (7), pp. 742-750.
- BARRIBALL, K.L. et al. (1996) The telephone survey method: a discussion paper. *Journal of Advanced Nursing*, 24 (1), pp. 115-121.
- BASSETT, R.H. (2005) Parenting and professing.
- BAUQUIS, C. (2012) *The world's number of IVF and ICSI babies has now reached a calculated total of five million*. [Online] ESHRE. <https://www.eshre.eu/Press-Room/Press-releases/Press-releases-ESHRE-2012/5-million-babies.aspx> [Accessed 10th December 2012].
- BAYLIS, F. (2015) Left out in the cold: seven reasons not to freeze your eggs. [Online] *Impact Ethics*. Available from: <https://impactethics.ca/2014/10/16/left-out-in-the-cold-seven-reasons-not-to-freeze-your-eggs/> [Accessed 10th May 2014].
- BBC WOMANS HOUR (2014) *Should employers pay for women to freeze their eggs?*. [Online] BBC. <http://www.bbc.co.uk/programmes/b04l3bqj> [Accessed January 2015].
- BEAUJOUAN, É and NÍ BHROLCHÁIN, M. (2011) Cohabitation and marriage in Britain since the 1970s. *Population Trends*, 145, pp. 35-59.
- BECKER, G. and NACHTIGALL, R.D. (1992) Eager for medicalisation: the social production of infertility as a disease. *Sociology of Health & Illness*, 14 (4), pp. 456-471.
- BECK-GERNSHEIM, E. and BECK, U. (1995) The normal chaos of love. *Cambridge: Polity*,.
- BENZIES, K. et al. (2006) Factors influencing women's decisions about timing of motherhood. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 35 (5), pp. 625-633.
- BERELSON, B. (1952) Content analysis in communication research.
- BERGER, P. and LUCKMANN, T. (1966) The social construction of knowledge: A treatise in the sociology of knowledge. *NY: Doubleday*,.

## References

- BERGNÉHR, D. (2009) Social influence and the timing of parenthood. *Interpersona*, 3 (1), pp. 61-83.
- BERGNÉHR, D. (2007) Love and Family: Discussions Between Swedish Men and Women Concerning the Transition to Parenthood.
- BERNSTEIN, S. and WIESEMANN, C. (2012) The pros and cons of "Social Freezing": evaluating German fertility specialists' views. In: *HUMAN REPRODUCTION*: OXFORD UNIV PRESS GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND.
- BERRINGTON, A. (2004) Perpetual postponers? Women's, men's and couple's fertility intentions and subsequent fertility behaviour. *Population Trends*, 117, pp. 9-19.
- BERRINGTON, A., STONE, J. and FALKINGHAM, J. (2009) The changing living arrangements of young adults in the UK. *Population Trends*, 138 (1), pp. 27-37.
- BEWLEY ET AL (2005) Which career first? The most secure age for childbearing remains 20 – 35. *British Medical Journal*, 17, pp. 588-589.
- BIRCH PETERSEN, K. et al. (2015) Family intentions and personal considerations on postponing childbearing in childless cohabiting and single women aged 35-43 seeking fertility assessment and counselling. *Human Reproduction (Oxford, England)*, 30 (11), pp. 2563-2574..
- BITTNER, U. (2009) A reply to Karey Harwood. *Bioethics*, 23 (9), pp. 525-525.
- BLACKBURN-STARZA, A. (2014) Facebook and Apple offer egg-freezing to employees. [Online] [http://www.bionews.org.uk/page\\_462518.asp](http://www.bionews.org.uk/page_462518.asp) [Accessed 8th October 2015].
- BOTTORFF, J.L. et al. (2014) A social media approach to inform youth about breast cancer and smoking: An exploratory descriptive study. *Collegian*, 21 (2), pp. 159-168.
- BRAEDLEY, S. and LUXTON, M. (2010) *Neoliberalism and everyday life*: McGill-Queen's Press-MQUP.
- BRAUN, V. and CLARKE, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2), pp. 77-101.
- BRAY, I., GUNNELL, D. and DAVEY SMITH, G. (2006) Advanced paternal age: how old is too old?. *Journal of Epidemiology and Community Health*, 60 (10), pp. 851-853.
- BREThERICK, K.L. et al. (2010) Fertility and aging: do reproductive-aged Canadian women know what they need to know?. *Fertility and Sterility*, 93 (7), pp. 2162-2168.
- BRID FEATHERSTONE (2009) *Contemporary fathering: Theory, policy and practice*: Policy Press.
- BRITT, E.C. (2014) *Conceiving normalcy: Rhetoric, law, and the double binds of infertility*: University of Alabama Press.
- BROOKS, A.T. (2010) Aesthetic anti- ageing surgery and technology: women's friend or foe?. *Sociology of Health & Illness*, 32 (2), pp. 238-257.



## References

- BROWN, B.J. and BAKER, S. (2012) *Responsible citizens: Individuals, health, and policy under neoliberalism*: Anthem Press.
- BROWN, N. (2006) Shifting tenses—from regimes of truth to regimes of hope. *Shifting Politics-Politics of Technology-the Times they are a-Changin'*, Groningen, April, pp. 21-22.
- BROWN, S., SMALL, R. and LUMLEY, J. (1997) Being a 'good mother'. *Journal of Reproductive and Infant Psychology*, 15 (2), pp. 185-200.
- BRYMAN, A. (2012) *Social research methods*: Oxford university press.
- BRYMAN, A. and HARDY, M.A. (2004) *Handbook of data analysis*: Sage.
- BUDDS, K., LOCKE, A. and BURR, V. (2013) "Risky Business" Constructing the "choice" to "delay" motherhood in the British press. *Feminist Media Studies*, 13 (1), pp. 132-147.
- BURNARD, P. (1991) A method of analysing interview transcripts in qualitative research. *Nurse Education Today*, 11 (6), pp. 461-466.
- BURY, M. (1982) Chronic illness as biographical disruption. *Sociology of Health & Illness*, 4 (2), pp. 167-182.
- BUTLER, K. (2010) Intensive mothering in British Columbia: Understanding the impact of an "investing-in-children" framework on mothering ideology. *International Journal of Canadian Studies/Revue Internationale D'études Canadiennes*, (42), pp. 243-253.
- BYRNE, B. (2004) Qualitative interviewing. *Researching Society and Culture*, 2, pp. 179-192.
- CALDAS-COULTHARD, C.R. (1994) On reporting reporting: the representation of speech in factual and factional narratives. *Advances in Written Text Analysis*, pp. 295-308.
- CAMPBELL, P. (2011) Boundaries and risk: Media framing of assisted reproductive technologies and older mothers. *Social Science & Medicine*, 72 (2), pp. 265-272.
- CAPUTO, V. (2007) She's From a Good Family'Performing childhood and motherhood in a Canadian private school setting. *Childhood*, 14 (2), pp. 173-192.
- CARR, E.C. and WORTH, A. (2001) The use of the telephone interview for research. *Nursing Times Research*, 6 (1), pp. 511-524.
- CARROLL, J., DEPYPERE, H. and MATTHEWS, C.D. (1990) Freeze-thaw-induced changes of the zona pellucida explains decreased rates of fertilization in frozen-thawed mouse oocytes. *Journal of Reproduction and Fertility*, 90 (2), pp. 547-553.
- CATTAPAN, A. et al. (2014) Breaking the ice: Young feminist scholars of reproductive politics reflect on egg freezing. *International Journal of Feminist Approaches to Bioethics*, 7 (2), pp. 236-247.
- CHALMERS, B. and MEYER, D. (1996) What men say about pregnancy, birth and parenthood. *Journal of Psychosomatic Obstetrics & Gynecology*, 17 (1), pp. 47-52.

## References

- CHANDLER, J.A. (2012) "Obligatory Technologies": Explaining Why People Feel Compelled to Use Certain Technologies. *Bulletin of Science, Technology & Society*, pp. 0270467612459924.
- CHANDLER, J.A. (2011) 'Obligatory Technologies' and the Autonomy of Patients in Biomedical Ethics. *Griffith Law Review*, 20 (4), pp. 905-930.
- CHAPMAN, G.B. and COUPS, E.J. (2006) Emotions and preventive health behavior: worry, regret, and influenza vaccination. *Health Psychology*, 25 (1), pp. 82.
- CHAVEZ, C. (2008) Conceptualizing from the inside: Advantages, complications, and demands on insider positionality. *The Qualitative Report*, 13 (3), pp. 474-494.
- CHECK, J.H. (2009) Advances in oocyte cryopreservation--part II: rapid cooling using vitrification. *Clinical and Experimental Obstetrics & Gynecology*, 36 (1), pp. 5-9.
- CHEEK, J. (2004) At the margins? Discourse analysis and qualitative research. *Qualitative Health Research*, 14 (8), pp. 1140-1150.
- CHEN, P. and HINTON, S.M. (1999) Realtime interviewing using the world wide web.
- CHOU, W.S. et al. (2009) Social media use in the United States: implications for health communication. *Journal of Medical Internet Research*, 11 (4), pp. e48.
- CHYI, H.I. and CHADHA, M. (2012) News on new devices: Is multi-platform news consumption a reality?. *Journalism Practice*, 6 (4), pp. 431-449.
- CLARK, V.P. and CRESWELL, J.W. (2011) Designing and conducting mixed methods research. *Vol*, 3, pp. 93-94.
- CLARKE, A. E., SHIM, J. K. MAMO, L. FOSKET, J. R. FISHMAN, J. R. (2003) Biomedicalization: Technoscientific Transformations of Health, Illness, and U.S. Biomedicine. *American Sociological Review*, 68 (2), pp. 161-194.
- CLARKE, A.E. (2010) *Biomedicalization*: Wiley Online Library.
- CLARKE, J.N. and EVEREST, M.M. (2006) Cancer in the mass print media: Fear, uncertainty and the medical model. *Social Science & Medicine*, 62 (10), pp. 2591-2600.
- COBO, A. et al. (2008) Comparison of concomitant outcome achieved with fresh and cryopreserved donor oocytes vitrified by the Cryotop method. *Fertility and Sterility*, 89 (6), pp. 1657-1664.
- COBO, A. et al. (2010) Use of cryo-banked oocytes in an ovum donation programme: a prospective, randomized, controlled, clinical trial. *Human Reproduction (Oxford, England)*, 25 (9), pp. 2239-2246.
- COHEN, H. (2015) *Cold comfort: is the fertility industry misleading women?*. [Online] ABC-Radio. <http://www.abc.net.au/radionational/programs/backgroundbriefing/cold-comfort-is-the-fertility-industry-misleading-women/6873442>.
- COLBOURNE, L. and SQUE, M. (2005) The culture of cancer and the therapeutic impact of qualitative research interviews. *Journal of Research in Nursing*, 10 (5), pp. 551-567.

## References

- COLE, F.L. (1988) Content analysis: process and application. *Clinical Nurse Specialist*, 2 (1), pp. 53-57.
- COLLEN, S. (1995) 'Like a mother to them': Stratified reproduction and West Indian childcare workers and employers in New York. *Conceiving the New World Order: The Global Politics of Reproduction*, pp. 78-102.
- CONNOR, S. (ed.) (2014) Lord Winston criticises 'jungle' world of British fertility treatment. *The Independent*, retrieved from: <http://www.independent.co.uk/news/science/lord-winston-criticises-jungle-world-of-british-fertility-treatment-9537859.html>.
- COOKE, A., MILLS, T.A. and LAVENDER, T. (2012) Advanced maternal age: Delayed childbearing is rarely a conscious choice: A qualitative study of women's views and experiences. *International Journal of Nursing Studies*, 49 (1), pp. 30-39.
- COOKE, A., MILLS, T.A. and LAVENDER, T. (2010) 'Informed and uninformed decision making'—Women's reasoning, experiences and perceptions with regard to advanced maternal age and delayed childbearing: A meta-synthesis. *International Journal of Nursing Studies*, 47 (10), pp. 1317-1329.
- CORBIN, J. and MORSE, J.M. (2003) The unstructured interactive interview: Issues of reciprocity and risks when dealing with sensitive topics. *Qualitative Inquiry*, 9 (3), pp. 335-354.
- COSSLETT, R.L. (2013) *Teenage pregnancies won't be stopped by shaming young mothers*. [Online] <http://www.theguardian.com/commentisfree/2013/may/20/teenage-pregnancies-shaming-contraception-love> [Accessed 8th August 2014].
- COURDURIÈS, J. and HERBRAND, C. (2014) Gender, kinship and assisted reproductive technologies: future directions after 30 years of research. *Enfances Familles Générations*, (21).
- CRAWFORD, R. (1977) You are dangerous to your health: the ideology and politics of victim blaming. *International Journal of Health Services*, 7 (4), pp. 663-680.
- CREATE FERTILITY (2016) *Professor Nargund launches fertility education pilot in South London school*. [Online] <http://www.createhealth.org/news/2016/professor-nargund-launches-fertility-education-course> [Accessed 30/09/2016].
- CRESWELL, J.W. and MILLER, D.L. (2000) Determining validity in qualitative inquiry. *Theory into Practice*, 39 (3), pp. 124-130.
- CULLEY, L., HUDSON, N. and VAN ROOIJ, F. (2009) *Marginalized Reproduction: Ethnicity, Infertility, and Reproductive Technologies* (London: Earthscan, 2009),.
- CULLEY, L. et al. (2007) 'I know about one treatment where they keep the egg somewhere': British South Asian community understandings of infertility and its treatment. *Diversity in Health and Social Care*, 4 (2), pp. 113-121.
- CULLEY, L., HUDSON, N. and LOHAN, M. (2013) Where are all the men? The marginalization of men in social scientific research on infertility. *Reproductive Biomedicine Online*, 27 (3), pp. 225-235.

## References

- CULLEY, L. et al. (2011) Crossing borders for fertility treatment: motivations, destinations and outcomes of UK fertility travellers. *Human Reproduction (Oxford, England)*, 26 (9), pp. 2373-2381.
- CUTTING, R. et al. (2009) Human oocyte cryopreservation: evidence for practice. *Human Fertility*, 12 (3), pp. 125-136.
- DALY, I. (2011) Explaining the trend towards older first time mothers—A life course perspective. *Birth Rites and Rights. Hart, Oxford*, pp. 255-270.
- DALY, I. and BEWLEY, S. (2013) Reproductive ageing and conflicting clocks: King Midas' touch. *Reproductive Biomedicine Online*, 27 (6), pp. 722-732.
- DANILUK, J.C. (2015) "Sleepwalking into Infertility": The Need for a Gentle Wake-Up Call. *The American Journal of Bioethics*, 15 (11), pp. 52-54.
- DANILUK, J.C. and KOERT, E. (2013) The other side of the fertility coin: a comparison of childless men's and women's knowledge of fertility and assisted reproductive technology. *Fertility and Sterility*, 99 (3), pp. 839-846.
- DANILUK, J.C., KOERT, E. and CHEUNG, A. (2012) Childless women's knowledge of fertility and assisted human reproduction: identifying the gaps. *Fertility and Sterility*, 97 (2), pp. 420-426.
- DAVIES, B. (ed.) (2010) The troubling truth about egg freezing. *The Daily Mail*, retrieved from: <http://www.dailymail.co.uk/femail/article-1290995/The-troubling-truth-egg-freezing-Its-expensive-medically-risky-FIVE-babies-born-Britain-result.html>.
- DE GROOT, M. et al. (2013) The voice of Dutch women with anticipated gamete exhaustion who consider oocyte freezing to increase their chances on shared parenthood. In: *HUMAN REPRODUCTION: OXFORD UNIV PRESS GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND*, pp. 66-66.
- DE MUNCK, N. et al. (2016) Open versus closed oocyte vitrification in an oocyte donation programme: a prospective randomized sibling oocyte study. *Human Reproduction*, .
- DEAKIN, H. and WAKEFIELD, K. (2013) Skype interviewing: Reflections of two PhD researchers. *Qualitative Research*, pp. 1468794113488126.
- DEL BONO, E., WEBER, A. and WINTER-EBMER, R. (2011) Fertility and economic instability: the role of unemployment and job displacement. *Journal of Population Economics*, 28 (2), pp. 463-478.
- DENNETT, D.C. (2004) *Freedom evolves*: Penguin UK.
- DENSCOMBE, M. (2010) *Ground Rules for Good Research: Guidelines for Good Practice*.
- DERMOTT, E. (2014) *Intimate fatherhood: A sociological analysis*: Routledge.
- DERMOTT, E.M. (2001) New fatherhood in practice? Parental leave in the UK. *International Journal of Sociology and Social Policy*, 21 (4/5/6), pp. 145-164.

## References

- DEVINE, K. et al. (2012) Baby budgeting: a cost-effectiveness analysis (CEA) of elective oocyte cryopreservation (EOC) as a means to increase live birth rates (LBR) in women delaying reproduction. *Fertility and Sterility*, 98 (3), pp. S7-S8.
- DEVINE, K. et al. (2015) Baby budgeting: oocyte cryopreservation in women delaying reproduction can reduce cost per live birth. *Fertility and Sterility*,.
- DEY, I. (1999) *Grounding grounded theory: Guidelines for qualitative inquiry*: Academic Press.
- DICKSON-SWIFT, V. et al. (2007) Doing sensitive research: what challenges do qualitative researchers face?. *Qualitative Research*, 7 (3), pp. 327-353.
- DOMINGUES, T.S., ROCHA, A.M. and SERAFINI, P.C. (2010) Tests for ovarian reserve: reliability and utility. *Current Opinion in Obstetrics & Gynecology*, 22 (4), pp. 271-276.
- DONDORP, W.J. and DE WERT, G.M. (2009) Fertility preservation for healthy women: ethical aspects. *Human Reproduction (Oxford, England)*, 24 (8), pp. 1779-1785.
- DONNELLY, L. (ed.) (2011) Fertility: will we ever win the egg race? retrieved from: <http://www.telegraph.co.uk/women/womens-health/8440309/Fertility-will-we-ever-win-the-egg-race.html>.
- DONNEZ, J. and DOLMANS, M. (2013) Fertility preservation in women. *Nature Reviews Endocrinology*, 9 (12), pp. 735-749.
- DUDGEON, M.R. and INHORN, M.C. (2004) Men's influences on women's reproductive health: medical anthropological perspectives. *Social Science & Medicine*, 59 (7), pp. 1379-1395.
- DUNSON, D.B., COLOMBO, B. and BAIRD, D.D. (2002) Changes with age in the level and duration of fertility in the menstrual cycle. *Human Reproduction (Oxford, England)*, 17 (5), pp. 1399-1403.
- DYKSTRA, P.A. and HAGESTAD, G.O. (2007) Childlessness and Parenthood in Two Centuries Different Roads—Different Maps?. *Journal of Family Issues*, 28 (11), pp. 1518-1532.
- EARLE, S. and LETHERBY, G. (2007) Conceiving time? Women who do or do not conceive. *Sociology of Health & Illness*, 29 (2), pp. 233-250.
- EARLE, S. and LETHERBY, G. (2002) Whose choice is it anyway? Decision making, control and conception. *Human Fertility*, 5 (2), pp. 39-41.
- EFFSIE (2011) *The Single Girl's Guide To Egg Freezing*: Amazon Digital Services LLC.
- EINSPAHR, J. (2010) Structural domination and structural freedom: a feminist perspective. *Feminist Review*, 94 (1), pp. 1-19.
- ELIZUR, S.E. et al. (2009) Cryopreservation of oocytes in a young woman with severe and symptomatic endometriosis: a new indication for fertility preservation. *Fertility and Sterility*, 91 (1), pp. 293. e1-293. e3.
- ELLIS-SLOAN, K. (2012). *'Becoming' a Teenage Mother in the UK*,.

## References

- ELO, S. and KYNGÄS, H. (2008) The qualitative content analysis process. *Journal of Advanced Nursing*, 62 (1), pp. 107-115.
- ENTMAN, R.M. (1993) Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43 (4), pp. 51-58.
- ERIKSSON, C., LARSSON, M. and TYDÉN, T. (2012) Reflections on having children in the future-interviews with highly educated women and men without children. *Upsala Journal of Medical Sciences*, 117 (3), pp. 328-335.
- EVERYWOMAN, J. (2013) Cassandra's prophecy: why we need to tell the women of the future about age-related fertility decline and 'delayed' childbearing. *Reproductive Biomedicine Online*, 27 (1), pp. 4-10.
- EXLEY, C. and LETHERBY, G. (2001) Managing a disrupted lifecourse: issues of identity and emotion work. *Health*, 5 (1), pp. 112-132.
- EXTEND FERTILITY *Preserve your option*. [Online] <http://www.extendfertility.com/> [Accessed March 2016].
- FABBRI, R. et al. (2001) Human oocyte cryopreservation: new perspectives regarding oocyte survival. *Human Reproduction (Oxford, England)*, 16 (3), pp. 411-416.
- FAIRCLOUGH, N. (2009) A dialectical-relational approach to critical discourse analysis in social research. *Methods of Critical Discourse Analysis*, 2, pp. 162-187.
- FAIRCLOUGH, N. (1995) Media discourse.
- FAIRCLOUGH, N. and WODAK, R. (2005) *Critical discourse analysis*: na.
- FELMLEE, D.H. (1994) Who's on top? Power in romantic relationships. *Sex Roles*, 31 (5-6), pp. 275-295.
- FERGIE, G., HILTON, S. and HUNT, K. (2015) Young adults' experiences of seeking online information about diabetes and mental health in the age of social media. *Health Expectations*, .
- FIRESTONE, S. (1970) *The dialectic of sex*. New York: William Morrow, .
- FLICK, U. (2009) *An introduction to qualitative research*: Sage.
- FOSSEY, E. et al. (2002) Understanding and evaluating qualitative research\*. *Australian and New Zealand Journal of Psychiatry*, 36 (6), pp. 717-732.
- FOX, B. (2009) *When couples become parents: The creation of gender in the transition to parenthood*: University of Toronto Press.
- FRANKLIN, S. (2013) *Biological Relatives-IVF, Stem Cells and the Future of Kinship*: Duke University Press.
- FRANKLIN, S. (2008) BIOS working paper no: 2.
- FRANKLIN, S. (1997) *Embodied progress: A cultural account of reproduction*.

## References

- FRANKLIN, S. and ROBERTS, C. (2006) *Born and made: An ethnography of preimplantation genetic diagnosis*: Princeton University Press.
- FRIESE, C., BECKER, G. and NACHTIGALL, R.D. (2006) Rethinking the biological clock: eleventh-hour moms, miracle moms and meanings of age-related infertility. *Social Science & Medicine*, 63 (6), pp. 1550-1560.
- FRIESE, C., BECKER, G. and NACHTIGALL, R.D. (2008) Older motherhood and the changing life course in the era of assisted reproductive technologies. *Journal of Aging Studies*, 22 (1), pp. 65-73.
- FROST, N. and HOLT, A. (2014) Mother, researcher, feminist, woman: reflections on "maternal status" as a researcher identity. *Qualitative Research Journal*, 14 (2), pp. 90-102.
- FUREDİ, F. (2008) *Paranoid parenting: Why ignoring the experts may be best for your child*: Continuum.
- GALVIN, R. (2002) Disturbing notions of chronic illness and individual responsibility: Towards a genealogy of morals. *Health*, 6 (2), pp. 107-137.
- GAY, E. et al. (2013) Young professional women and elective oocyte cryopreservation: Knowledge and desire. *Fertility and Sterility*, 3 (100), pp. S167.
- GENA, C. (1985) The mother machine. *Reproductive Technologies from Artificial Insemination to Artificial Wombs*, Harper and Row, New York, .
- GIDDENS, A. (1991) *Modernity and self-identity: Self and society in the late modern age*: Stanford University Press.
- GILL, R. (2007) Postfeminist media culture Elements of a sensibility. *European Journal of Cultural Studies*, 10 (2), pp. 147-166.
- GILLESPIE, R. (2003) Childfree and feminine Understanding the gender identity of voluntarily childless women. *Gender & Society*, 17 (1), pp. 122-136.
- GILLESPIE, R. (2000) When no means no: Disbelief, disregard and deviance as discourses of voluntary childlessness. In: *Women's Studies International Forum*: Elsevier, pp. 223-234.
- GINSBURG, F.D. and RAPP, R. (1995) *Conceiving the new world order: The global politics of reproduction*: Univ of California Press.
- GLASER, B.S. and STRAUSS, A. (1968) A. (1967). The discovery of grounded theory. *Strategies for Qualitative Research*. London: Weidenfeld and Nicolson, .
- GOLAFSHANI, N. (2003) Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8 (4), pp. 597-606.
- GOLD, E. et al. (2006) P-187: A motivational assessment of women undergoing elective egg freezing for fertility preservation. *Fertility and Sterility*, 86 (3, Supplement), pp. S201.
- GOOLD, I. and SAVULESCU, J. (2009) In Favour of Freezing Eggs for Non-Medical Reasons. *Bioethics*, 23 (1), pp. 47-58.

## References

- GORTHI, S., WRIGHT, C. and BALEN, A. (2010) Is egg freezing for social reasons a good idea? What young women really think. In: *Human Reproduction*: OXFORD UNIV PRESS GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND, pp. I11-I12.
- GOSDEN, R. and RUTHERFORD, A. (1995) Delayed childbearing. *BMJ (Clinical Research Ed.)*, 311 (7020), pp. 1585-1586.
- GRANJA, R., DA CUNHA, MANUELA IVONE P and MACHADO, H. (2014) Mothering From Prison and Ideologies of Intensive Parenting Enacting Vulnerable Resistance. *Journal of Family Issues*, pp. 0192513X14533541.
- GREENE, M.E. and BIDDLECOM, A.E. (2000) Absent and problematic men: Demographic accounts of male reproductive roles. *Population and Development Review*, 26 (1), pp. 81-115.
- GREENE, M.J. (2014) On the inside looking in: Methodological insights and challenges in conducting qualitative insider research. *The Qualitative Report*, 19 (29), pp. 1-13.
- GREENFIELD, T.K., MIDANIK, L.T. and ROGERS, J.D. (2000) Effects of telephone versus face- to- face interview modes on reports of alcohol consumption. *Addiction*, 95 (2), pp. 277-284.
- GREIL, A.L. (1991) *Not yet pregnant: Infertile couples in contemporary America*. : Rutgers University Press.
- GREIL, A.L., SLAUSON- BLEVINS, K. and MCQUILLAN, J. (2010) The experience of infertility: a review of recent literature. *Sociology of Health & Illness*, 32 (1), pp. 140-162.
- GUILLAUME, L. and BATH, P.A. (2008) A content analysis of mass media sources in relation to the MMR vaccine scare. *Health Informatics Journal*, 14 (4), pp. 323-334.
- GUPTA, J.A. (1991) Women's Bodies: The Site for the Ongoing Conquest by Reproductive Technologies. *Issues in Reproductive and Genetic Engineering*, 4 (2), pp. 93-107.
- HADFIELD, L., RUDOE, N. and SANDERSON- MANN, J. (2007) Motherhood, choice and the British media: a time to reflect. *Gender and Education*, 19 (2), pp. 255-263.
- HADLEY, R. and HANLEY, T. (2011) Involuntarily childless men and the desire for fatherhood. *Journal of Reproductive and Infant Psychology*, 29 (1), pp. 56-68.
- HAGESTAD, G.O. and NEUGARTEN, B.L. (1985) Age and the life course. *Handbook of Aging and the Social Sciences*, 2, pp. 35-61.
- HAMANN, T.H. (2009) Neoliberalism, governmentality, and ethics. *Foucault Studies*, pp. 37-59.
- HAMMERSLEY, M. and GOMM, R. (1997) Bias in social research.
- HANSEN, K.R. et al. (2008) A new model of reproductive aging: the decline in ovarian non-growing follicle number from birth to menopause. *Human Reproduction (Oxford, England)*, 23 (3), pp. 699-708.
- HARWOOD, K. (2009) Egg Freezing: a Breakthrough for Reproductive Autonomy?. *Bioethics*, 23 (1), pp. 39-46.



## References

- HASHILONI-DOLEV, Y., KAPLAN, A. and SHKEDI-RAFID, S. (2011) The fertility myth: Israeli students' knowledge regarding age-related fertility decline and late pregnancies in an era of assisted reproduction technology. *Human Reproduction*, 26 (11), pp. 3045-3053.
- HASS, N. (2011) Time to chill? Egg-freezing technology offers women a chance to extend their fertility. *Vogue Magazine*, .
- HAWN, C. (2009) Take two aspirin and tweet me in the morning: how Twitter, Facebook, and other social media are reshaping health care. *Health Affairs (Project Hope)*, 28 (2), pp. 361-368.
- HAY-GIBSON, N.V. (2010) Interviews via VoIP: Benefits and Disadvantages within a PhD study of SMEs. *Library and Information Research*, 33 (105), pp. 39-50.
- HAYS, S. (1998) *The cultural contradictions of motherhood*: Yale University Press.
- HEFFNER, L.J. (2004) Advanced maternal age—how old is too old. *N Engl J Med*, 351 (19), pp. 1927-1929.
- HEMMINKI, E. (1996) Impact of Caesarean section on future pregnancy- a review of cohort studies. *Paediatric and Perinatal Epidemiology*, 10 (4), pp. 366-379.
- HENWOOD, K. and PROCTER, J. (2003) The 'good father': Reading men's accounts of paternal involvement during the transition to first- time fatherhood. *British Journal of Social Psychology*, 42 (3), pp. 337-355.
- HENWOOD, K., SHIRANI, F. and NEE PROCTER, J.K. (2011) On delayed fatherhood: the social and subjective "logics" at work in men's lives (a UK study). In: *The Future of Motherhood in Western Societies*: Springer, pp. 159-175.
- HEWLETT, S.A. (2004) Fast-track women and the quest for children. *Fertility and Sterility*, 81, pp. 15-18.
- HFEA (2016) *Fertility Treatment in 2014: Trends and Figures*: HFEA.
- HILTON, S. et al. (2010) Newsprint media representations of the introduction of the HPV vaccination programme for cervical cancer prevention in the UK (2005–2008). *Social Science & Medicine*, 70 (6), pp. 942-950.
- HILTON, S., PATTERSON, C. and TEYHAN, A. (2012) Escalating coverage of obesity in UK newspapers: the evolution and framing of the "obesity epidemic" from 1996 to 2010. *Obesity*, 20 (8), pp. 1688-1695.
- HILTON, S. and SMITH, E. (2010) Public views of the UK media and government reaction to the 2009 swine flu pandemic. *BMC Public Health*, 10 (1), pp. 1.
- HINTON, L. and MILLER, T. (2013) Mapping men's anticipations and experiences in the reproductive realm:(in) fertility journeys. *Reproductive Biomedicine Online*, 27 (3), pp. 244-252.
- HINTON, L., KURINCZUK, J.J. and ZIEBLAND, S. (2010) Infertility; isolation and the Internet: A qualitative interview study. *Patient Education and Counseling*, 81 (3), pp. 436-441.

## References

- HIRSHFELD-CYTRON, J. et al. (2012) Cost-effective analysis of oocyte cryopreservation: stunning similarities but differences remain. *Human Reproduction (Oxford, England)*, 27 (12), pp. 3639.
- HODES-WERTZ, B. et al. (2013) What do reproductive-age women who undergo oocyte cryopreservation think about the process as a means to preserve fertility?. *Fertility and Sterility*, 100 (5), pp. 1343-1349. e2.
- HOLSTEIN, J.A. and GUBRIUM, J.F. (2011) The constructionist analytics of interpretive practice. *The Sage Handbook of Qualitative Research*, pp. 341-358.
- HOMBURG, R., VAN DER VEEN, F. and SILBER, S.J. (2009) Oocyte vitrification—women's emancipation set in stone. *Fertility and Sterility*, 91 (4), pp. 1319-1320.
- HOOK, E.B. (1981) Rates of chromosome abnormalities at different maternal ages. *Obstetrics & Gynecology*, 58 (3), pp. 282-285.
- HORSBURGH, D. (2003) Evaluation of qualitative research. *Journal of Clinical Nursing*, 12 (2), pp. 307-312.
- HUANG, J.Y. et al. (2003) Internet use by patients seeking infertility treatment. *International Journal of Gynecology & Obstetrics*, 83 (1), pp. 75-76.
- HUDSON, N. et al. (2008) "Public" perceptions of gamete donation: a research review. *Public Understanding of Science*,.
- HUDSON, N.A. (2008). *Infertility in British South Asian Communities: Negotiating the Community and the Clinic*,.
- HUTCHBY, I. and WOOFFITT, R. (2008) *Conversation analysis: Polity*.
- HVIDMAN, H.W. et al. (2015) Individual fertility assessment and pro-fertility counselling; should this be offered to women and men of reproductive age?. *Human Reproduction (Oxford, England)*, 30 (1), pp. 9-15.
- ILM (2014) *Poor uptake of paternity leave holding back female career progression*. [Online] Institution of Leadership and Management. [https://www.ilm.com/~media/ILM%20Website/Documents/Information%20for%20media/Parental%20leave%20press%20release\\_web%20pdf.ashx](https://www.ilm.com/~media/ILM%20Website/Documents/Information%20for%20media/Parental%20leave%20press%20release_web%20pdf.ashx) [Accessed 13/09/2016].
- IMESON, M. and MCMURRAY, A. (1996) Couples' experiences of infertility: a phenomenological study. *Journal of Advanced Nursing*, 24 (5), pp. 1014-1022.
- INUK (2016) *Rebrand*. [Online] Infertility Network UK. <http://www.infertilitynetworkuk.com/blog/240/Rebrand> [Accessed 16/09/2016].
- JARVIE, R., LETHERBY, G. and STENHOUSE, E. (2015) "Renewed" "older" motherhood/mothering: a qualitative exploration. *Journal of Women & Aging*, 27 (2), pp. 103-122.
- JOHNSTON, D.D. and SWANSON, D.H. (2006) Constructing the "good mother": The experience of mothering ideologies by work status. *Sex Roles*, 54 (7-8), pp. 509-519.

## References

- JOLLY, M. et al. (2000) The risks associated with pregnancy in women aged 35 years or older. *Human Reproduction (Oxford, England)*, 15 (11), pp. 2433-2437.
- JONES, B. (2009) Lord Winston labels egg freezing an 'expensive confidence trick'. *BioNews*, (515).
- JOSEPH, K.S. et al. (2005) The perinatal effects of delayed childbearing. *Obstetrics and Gynecology*, 105 (6), pp. 1410-1418.
- KAVANAUGH, K. and AYRES, L. (1998a) "Not as bad as it could have been": Assessing and mitigating harm during research interviews on sensitive topics. *Research in Nursing & Health*, 21 (1), pp. 91-97.
- KAVANAUGH, K. and AYRES, L. (1998b) "Not as bad as it could have been": Assessing and mitigating harm during research interviews on sensitive topics. *Research in Nursing & Health*, 21 (1), pp. 91-97.
- KAWWASS, J.F. et al. (2013) Trends and outcomes for donor oocyte cycles in the United States, 2000-2010. *Jama*, 310 (22), pp. 2426-2434.
- KEMKES-GROTTENTHALER, A. (2003) Postponing or rejecting parenthood? Results of a survey among female academic professionals. *Journal of Biosocial Science*, 35 (02), pp. 213-226.
- KING, N. and HORROCKS, C. (2010) Interviewing in qualitative research.
- KIRKMAN, M. and ROSENTHAL, D. (1999) Representations of reproductive technology in women's narratives of infertility. *Women & Health*, 29 (2), pp. 17-36.
- KLEIN, J. et al. (2006) P-486: Preliminary experience of an oocyte cryopreservation program: Are patients presenting too late?. *Fertility and Sterility*, 86 (3), pp. S315.
- KLEIN, R.D. (1989) Infertility: women speak out about their experiences of reproductive medicine.
- KNOPMAN, J. et al. (2008) Freezing the biological clock: demographics of an oocyte cryopreservation program. *Fertility and Sterility*, 90, pp. S427.
- KOCH, L. (1990) IVF: An irrational choice. *Issues in Reproductive and Genetic Engineering*, 3 (3), pp. 235-242.
- KORDA, H. and ITANI, Z. (2013) Harnessing social media for health promotion and behavior change. *Health Promotion Practice*, 14 (1), pp. 15-23.
- KREYENFELD, M. (2010) Uncertainties in female employment careers and the postponement of parenthood in Germany. *European Sociological Review*, 26 (3), pp. 351-366.
- KRIPPENDORFF, K. (2012) *Content analysis: An introduction to its methodology*: Sage.
- KROLØKKE, C.H. and PANT, S. (2012) "I only need her uterus": Neo-liberal Discourses on Transnational Surrogacy. *NORA-Nordic Journal of Feminist and Gender Research*, 20 (4), pp. 233-248.

## References

- LAKÄMPER, J. (2015) The Pains of Sharing Pleasure: Imag(in)ing Motherhood on Pinterest. *Journal of the Motherhood Initiative for Research and Community Involvement*, 6 (1).
- LALLEMANT, C. et al. (2014) Oocyte freezing for social indications: an internet based survey of knowledge, attitudes and intentions among women in Denmark and the United Kingdom. In: *HUMAN REPRODUCTION*: OXFORD UNIV PRESS GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND, pp. 81-82.
- LAMPIC, C. et al. (2006) Fertility awareness, intentions concerning childbearing, and attitudes towards parenthood among female and male academics. *Human Reproduction (Oxford, England)*, 21 (2), pp. 558-564.
- LASSWELL, H.D. (1927) *Propaganda technique in the world war*: AA Knopf New York.
- LAURITZEN, P. (1990) What price parenthood?. *Hastings Center Report*, 20 (2), pp. 38-46.
- LAYDER, D. (2006) 199 4. Understanding of Social Theory.
- LAYDER, D. (1997) *Modern social theory: Key debates and new directions*: Psychology Press.
- LAYDER, D. (1993) *New strategies in social research: An introduction and guide*: Polity Press.
- LAYNE, L.L. (1990) Motherhood Lost: Cultural Dimensions of Miscarriage. *Women & Health*, 16 (3-4), pp. 69-98.
- LAZARUS, E.S. (1994) What do women want?: Issues of choice, control, and class in pregnancy and childbirth. *Medical Anthropology Quarterly*, 8 (1), pp. 25-46.
- LEHMANN-HAUPT, R. (2009) *In Her Own Sweet Time: Unexpected Adventures in Finding Love, Commitment, and Motherhood*: Public Affairs.
- LEMOINE, M.E. and RAVITSKY, V. (2015) Sleepwalking Into Infertility: The Need for a Public Health Approach Toward Advanced Maternal Age. *The American Journal of Bioethics : AJOB*, 15 (11), pp. 37-48.
- LERIDON, H. (2004) Can assisted reproduction technology compensate for the natural decline in fertility with age? A model assessment. *Human Reproduction (Oxford, England)*, 19 (7), pp. 1548-1553.
- LEATHERBY, G. (2002a) Challenging dominant discourses: Identity and change and the experience of 'infertility' and 'involuntary childlessness'. *Journal of Gender Studies*, 11 (3), pp. 277-288.
- LEATHERBY, G. (2002b) Childless and bereft?: Stereotypes and realities in relation to 'voluntary' and 'involuntary' childlessness and womanhood. *Sociological Inquiry*, 72 (1), pp. 7-20.
- LEATHERBY, G. (2002c) Claims and disclaimers: knowledge, reflexivity and representation in feminist research. *Sociological Research Online*, 6 (4).
- LEATHERBY, G. (1999) Other than mother and mothers as others: The experience of motherhood and non-motherhood in relation to 'infertility' and 'involuntary childlessness'. In: *Women's Studies International Forum*: Elsevier, pp. 359-372.

## References

- LEATHERBY, G. (1994) Mother or not, mother or what?: Problems of definition and identity. In: *Women's studies international forum*: Elsevier, pp. 525-532.
- LEATHERBY, G. and WILLIAMS, C. (1999) Non-motherhood: Ambivalent autobiographies. *Feminist Studies*, pp. 719-728.
- LEVE, M. (2013) Reproductive Bodies and Bits: Exploring Dilemmas of Egg Donation under Neoliberalism. *Studies in Gender and Sexuality*, 14 (4), pp. 277-288.
- LIAMPUTTONG, P. (2006) Motherhood and "moral career": Discourses of good motherhood among Southeast Asian immigrant women in Australia. *Qualitative Sociology*, 29 (1), pp. 25-53.
- LIU, K.E. and GREENBLATT, E.M. (2012) Oocyte cryopreservation in Canada: a survey of Canadian ART clinics. *Journal of Obstetrics and Gynaecology Canada : JOGC = Journal D'Obstetrique Et Gynecologie Du Canada : JOGC*, 34 (3), pp. 250-256.
- LOCKE, T. (2004) *Critical discourse analysis*: Bloomsbury Publishing.
- LOCKWOOD, G. and JOHNSON, M.H. (2015) Having it all? Where are we with "social" egg freezing today?. *Reproductive BioMedicine Online*, 31 (2), pp. 126-127.
- LOFTUS, J. and ANDRIOT, A.L. (2012) "That's What Makes a Woman": Infertility and Coping with a Failed Life Course Transition. *Sociological Spectrum*, 32 (3), pp. 226-243.
- LUPTON, D. (2000) 'A love/hate relationship': the ideals and experiences of first-time mothers. *Journal of Sociology*, 36 (1), pp. 50-63.
- LUPTON, D. (1994) Toward the development of critical health communication praxis. *Health Communication*, 6 (1), pp. 55-67.
- LUPTON, D. and THOMAS, G.M. (2015) Playing pregnancy: The ludification and gamification of expectant motherhood in smartphone apps. *M/C Journal*, 18 (5).
- MAC DOUGALL, K., BEYENE, Y. and NACHTIGALL, R.D. (2012) 'Inconvenient biology': advantages and disadvantages of first-time parenting after age 40 using in vitro fertilization. *Human Reproduction (Oxford, England)*, 27 (4), pp. 1058-1065.
- MACHIN, D. and MAYR, A. (2012) *How to do critical discourse analysis: A multimodal introduction*: Sage.
- MACMILLAN, R. (2005) The structure of the life course: Classic issues and current controversies. *Advances in Life Course Research*, 9, pp. 3-24.
- MACNAMARA, J.R. (2005) Media content analysis: Its uses, benefits and best practice methodology. *Asia-Pacific Public Relations Journal*, 6 (1), pp. 1.
- MAHESHWARI, A. et al. (2008) Women's awareness and perceptions of delay in childbearing. *Fertility and Sterility*, 90 (4), pp. 1036-1042.
- MAHESHWARI, A., FOWLER, P. and BHATTACHARYA, S. (2006) Assessment of ovarian reserve--should we perform tests of ovarian reserve routinely?. *Human Reproduction (Oxford, England)*, 21 (11), pp. 2729-2735.

## References

- MAHESHWARI, A., HAMILTON, M. and BHATTACHARYA, S. (2008) A survey of clinicians' views on age and access to IVF and the use of tests of ovarian reserve prior to IVF in the United Kingdom. *Hum Fertil (Camb)*, 11 (1), pp. 23-27.
- MALACRIDA, C. and BOULTON, T. (2012) Women's perceptions of childbirth "choices" competing discourses of motherhood, sexuality, and selflessness. *Gender & Society*, 26 (5), pp. 748-772.
- MALIK, S.H. and COULSON, N.S. (2013) Coming to terms with permanent involuntary childlessness: a phenomenological analysis of bulletin board postings. *Europe's Journal of Psychology*, 9 (1), pp. 77-92.
- MALIK, S.H. and COULSON, N.S. (2008) Computer-mediated infertility support groups: an exploratory study of online experiences. *Patient Education and Counseling*, 73 (1), pp. 105-113.
- MAMO, L. (2009) Consumption and subjectification in US lesbian reproductive practices. *Biomedicalization: Technoscience, Health, and Illness in the US*, pp. 173.
- MARSIGLIO, W. et al. (2000) Scholarship on fatherhood in the 1990s and beyond. *Journal of Marriage and Family*, 62 (4), pp. 1173-1191.
- MARSIGLIO, W., LOHAN, M. and CULLEY, L. (2013) Framing men's experience in the procreative realm. *Journal of Family Issues*, pp. 0192513X13484260.
- MARTIN, L. (2010) Anticipating infertility: egg freezing, genetic preservation, and risk. *Gender and Society*, 24 (4), pp. 526-545.
- MASON, M. (2010) Sample size and saturation in PhD studies using qualitative interviews. In: *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*.
- MATSON, P.L. et al. (1997) Cryopreservation of oocytes and embryos: use of a mouse model to investigate effects upon zona hardness and formulate treatment strategies in an in-vitro fertilization programme. *Human Reproduction (Oxford, England)*, 12 (7), pp. 1550-1553.
- MCDERMOTT, E. and GRAHAM, H. (2005) Resilient young mothering: social inequalities, late modernity and the 'problem' of 'teenage' motherhood. *Journal of Youth Studies*, 8 (1), pp. 59-79.
- MCQUILLAN, J. et al. (2015) The importance of motherhood and fertility intentions among US women. *Sociological Perspectives*, 58 (1), pp. 20-35.
- MERRIAM, S.B. et al. (2001) Power and positionality: Negotiating insider/outsider status within and across cultures. *International Journal of Lifelong Education*, 20 (5), pp. 405-416.
- MERTES, H. (2015) Does company-sponsored egg freezing promote or confine women's reproductive autonomy?. *Journal of Assisted Reproduction and Genetics*, pp. 1-5.
- MERTES, H. (2013) The portrayal of healthy women requesting oocyte cryo-preservation. *Facts, Views & Vision in ObGyn*, 5 (2), pp. 141-146.
- MERTES, H. and PENNINGS, G. (2012) Elective oocyte cryopreservation: who should pay?. *Human Reproduction*, 27 (1), pp. 9-13.

## References

- MERTES, H. and PENNINGS, G. (2011) Social egg freezing: for better, not for worse. *Reproductive BioMedicine Online (Reproductive Healthcare Limited)*, 23 (7), pp. 824-829.
- MESEN, T.B. et al. (2015) Optimal timing for elective egg freezing. *Fertility and Sterility*,.
- MEYERS, D.T. (2001) The Rush to Motherhood: Pronatalist Discourse and Women's Autonomy. *Signs*, 26 (3), pp. 735-773.
- MILLER, T. (2007) "Is this what motherhood is all about?" Weaving experiences and discourse through transition to first-time motherhood. *Gender & Society*, 21 (3), pp. 337-358.
- MILLS, M. et al. (2011) Why do people postpone parenthood? Reasons and social policy incentives. *Human Reproduction Update*, 17 (6), pp. 848-860.
- MINNIS, A.M. et al. (2013) Limited socioeconomic opportunities and Latina teen childbearing: A qualitative study of family and structural factors affecting future expectations. *Journal of Immigrant and Minority Health*, 15 (2), pp. 334-340.
- MORISON, T. (2013) Heterosexual Men and Parenthood Decision Making in South Africa Attending to the Invisible Norm. *Journal of Family Issues*, pp. 0192513X13484271.
- MORSE, J.M. (1995) The significance of saturation. *Qualitative Health Research*, 5 (2), pp. 147-149.
- MULLINGS, B. (1999) Insider or outsider, both or neither: some dilemmas of interviewing in a cross-cultural setting. *Geoforum*, 30 (4), pp. 337-350.
- MYERS, C., DAILY, Z. and JAIN, J. (2015) Why Do So Few Women Return to Utilize Cryopreserved Oocytes? Qualitative Insights Into Elective Oocyte Cryopreservation. *Fertility and Sterility*, 2 (103), pp. e30.
- NAAMAN, L. (ed.) (2013) Now That Everyone's Freezing Their Eggs...Should You?. *Glamour Magazine*, retrieved from: <http://www.glamour.com/story/now-that-everyones-freezing-their-eggs-should-you>.
- NEALE, B. and FLOWERDEW, J. (2003) Time, texture and childhood: The contours of longitudinal qualitative research. *International Journal of Social Research Methodology*, 6 (3), pp. 189-199.
- NEKKEBROECK, J., STOOP, D. and DEVROEY, P. (2010) A preliminary profile of women opting for oocyte cryopreservation for non-medical reasons. In: *Human Reproduction*: OXFORD UNIV PRESS GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND, pp. I15-I16.
- NEKKEBROECK, J., TOURNAYE, H. and STOOP, D. (2013) The profile of a pioneer cohort of 225 women with anticipated gamete exhaustion (AGE) opting for oocyte cryopreservation. In: *Human Reproduction*: OXFORD UNIV PRESS GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND, pp. 265-265.
- NEUENDORF, K.A. (2002) *The content analysis guidebook*: Sage.
- NEUGARTEN, B.L. (1973) Personality change in late life: A developmental perspective.

## References

- NEWBOLD, C., BOYD-BARRETT, O. and VAN DEN BULCK, H. (2002) *The media book*: Arnold London.
- NÍ BHROLCHÁIN, M. and TOULEMON, L. (2005) Does postponement explain the trend to later childbearing in France?. *Vienna Yearbook of Population Research*, pp. 83-107.
- NICE (2013) *Fertility problems: assessment and treatment*. [Online] National Institute of Health and Care Excellence. <https://www.nice.org.uk/guidance/cg156> [Accessed 12th August 2014].
- NOBLE, H. and SMITH, J. (2015) Issues of validity and reliability in qualitative research. *Evidence-Based Nursing*, 18 (2), pp. 34-35.
- NORDQVIST, P. and SMART, C. (2014) *Relative strangers: Family life, genes and donor conception*: Palgrave macmillan.
- NYBO ANDERSEN, A.M. et al. (2000) Maternal age and fetal loss: population based register linkage study. *BMJ (Clinical Research Ed.)*, 320 (7251), pp. 1708-1712.
- OAKLEY, A. (1984) *The captured womb: A history of the medical care of pregnant women*.
- OECD (2016) *Parental leave: Where are all the fathers?*. [Online] <http://www.oecd.org/gender/parental-leave-where-are-the-fathers.pdf> [Accessed 13/09/2016].
- ONS (2014) *Families and Households: 2013*. Office for national statistics.
- ONS (2011) *Births and Deaths in England and Wales*: Office for national statistics.
- OPDENAKKER, R. (2006) Advantages and disadvantages of four interview techniques in qualitative research. In: *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*.
- PARKER, I. (2014) *Discourse Dynamics (Psychology Revivals): Critical Analysis for Social and Individual Psychology*: Routledge.
- PARMEGIANI, L. et al. (2011) Efficiency of aseptic open vitrification and hermetical cryostorage of human oocytes. *Reproductive Biomedicine Online*, 23 (4), pp. 505-512.
- PAYNTER, S.J. et al. (1999) Permeability characteristics of human oocytes in the presence of the cryoprotectant dimethylsulphoxide. *Human Reproduction (Oxford, England)*, 14 (9), pp. 2338-2342.
- PENFOLD, M. and FOXTON, F. (2015) Participation rates in the UK-2014-2. Women.
- PERL, L. and ZWAHLEN, E. (2012) A review of the treatment experience of women undergoing oocyte vitrification for social reasons at Geneva. In: *Human Reproduction*: OXFORD UNIV PRESS GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND.
- PERRIER, M. (2013) No right time: the significance of reproductive timing for younger and older mothers' moralities. *The Sociological Review*, 61 (1), pp. 69-87.



## References

- PETERSON, B.D. et al. (2012) Fertility awareness and parenting attitudes among American male and female undergraduate university students. *Human Reproduction (Oxford, England)*, 27 (5), pp. 1375-1382.
- PETROPANAGOS, A. (2015) Is Advanced Maternal Age a Public Health Issue?. *The American Journal of Bioethics*, 15 (11), pp. 56-58.
- PETROPANAGOS, A. (2010) Reproductive 'choice' and egg freezing. In: *Oncofertility*: Springer, pp. 223-235.
- PITTS-TAYLOR, V. (2010) The plastic brain: neoliberalism and the neuronal self. *Health (London, England : 1997)*, 14 (6), pp. 635-652.
- POLIT, D.F. and BECK, C.T. (2004) *Nursing research: Principles and methods*: Lippincott Williams & Wilkins.
- POTTER, J. (1996) *Representing reality: Discourse, rhetoric and social construction*: Sage.
- PRACTICE COMMITTEE OF THE AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE (2009) ASRM Practice Committee response to Rybak and Lieman: elective self-donation of oocytes. *Fertility and Sterility*, 92 (5), pp. 1513-1514.
- PRACTICE COMMITTEE OF THE AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE and PRACTICE COMMITTEE OF THE SOCIETY FOR ASSISTED REPRODUCTIVE TECHNOLOGY (2013) Mature oocyte cryopreservation: a guideline. *Fertil Steril*, 99 (1), pp. 37-43.
- PRACTICE COMMITTEE OF THE AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE and PRACTICE COMMITTEE OF THE SOCIETY FOR ASSISTED REPRODUCTIVE TECHNOLOGY (2008) Ovarian tissue and oocyte cryopreservation. *Fertility and Sterility*, 90 (5), pp. S241-S246.
- PROUDFOOT, S., WELLINGS, K. and GLASIER, A. (2009) Analysis why nulliparous women over age 33 wish to use contraception. *Contraception*, 79 (2), pp. 98-104.
- PURCELL, C., HILTON, S. and MCDAID, L. (2014) The stigmatisation of abortion: a qualitative analysis of print media in Great Britain in 2010. *Culture, Health & Sexuality*, 16 (9), pp. 1141-1155.
- RAKIME ELMIR, R. (2011) Interviewing people about potentially sensitive topics. *Nurse Researcher*, 19 (1), pp. 12.
- RAPP, R. (1999) Testing women, testing the fetus. *The Social Impact of Amniocentesis in America*. New York: Routledge, .
- REDFERN, C. (2016) *Inside London's Pop-Up 'Egg Freezing Shop'*. [Online] <http://www.marieclaire.co.uk/blogs/551825/egg-freezing-shop-london-old-street.html> [Accessed April 2016].
- RICHARDS, S.E. (2013) *Motherhood rescheduled*. New York: Simon & Schuster.
- RICHARDSON, J. (2007) Analysing newspapers: an approach from critical discourse analysis.

## References

- RIENZI, L. et al. (2004) Polscope analysis of meiotic spindle changes in living metaphase II human oocytes during the freezing and thawing procedures. *Human Reproduction (Oxford, England)*, 19 (3), pp. 655-659.
- RIENZI, L. et al. (2010) Embryo development of fresh 'versus' vitrified metaphase II oocytes after ICSI: a prospective randomized sibling-oocyte study. *Human Reproduction (Oxford, England)*, 25 (1), pp. 66-73.
- RIFF, D., LACY, S. and FICO, F. (2014) *Analyzing media messages: Using quantitative content analysis in research*: Routledge.
- ROBERTS, D.E. (2009) Race, gender, and genetic technologies: a new reproductive dystopia?. *Signs*, 34 (4), pp. 783-804.
- RODRIGUEZ-WALLBERG, K.A. and OKTAY, K. (2012) Options on fertility preservation in female cancer patients. *Cancer Treatment Reviews*, 38 (5), pp. 354-361.
- ROMAGNOLI, A. and WALL, G. (2012) 'I know I'm a good mom': Young, low-income mothers' experiences with risk perception, intensive parenting ideology and parenting education programmes. *Health, Risk & Society*, 14 (3), pp. 273-289.
- ROMAIN, T. (2012) "Fertility. Freedom. Finally.": Cultivating Hope in the Face of Uncertain Futures among Egg-Freezing Women. *The Anthropology of Ignorance: An Ethnographic Approach*, pp. 189.
- ROSE, N. (2007) *The politics of life itself: Biomedicine, power, and subjectivity in the twenty-first century*: Princeton University Press.
- ROSE, N. (1999) Powers of freedom: reframing political thought.
- ROSE, N. (1998) *Inventing our selves: Psychology, power, and personhood*: Cambridge University Press.
- ROSE, N. (1993) Government, authority and expertise in advanced liberalism. *Economy and Society*, 22 (3), pp. 283-299.
- ROSE, N. (1990) *Governing the soul: the shaping of the private self*.: Taylor & Frances/Routledge.
- ROSENTHAL, A.N. and PATERSON- BROWN, S. (1998) Is there an incremental rise in the risk of obstetric intervention with increasing maternal age?. *BJOG: An International Journal of Obstetrics & Gynaecology*, 105 (10), pp. 1064-1069.
- ROTHMAN, B.K. (1986) The tentative pregnancy: Prenatal diagnosis and the future of motherhood.
- ROTTENBERG, C. (2014) The rise of neoliberal feminism. *Cultural Studies*, 28 (3), pp. 418-437.
- RUSH, P. (2013) *Dad and partner pay: Implications for policy-makers and practitioners*: Australian Institute of Family Studies.
- RUSSO, N.F. (1976) The motherhood mandate. *Journal of Social Issues*, 32 (3), pp. 143-153.

## References

- RYBAK, E.A. and LIEMAN, H.J. (2009) Egg freezing, procreative liberty, and ICSI: the double standards confronting elective self-donation of oocytes. *Fertility and Sterility*, 92 (5), pp. 1509-1512.
- SAAD FILHO, A. and JOHNSTON, D. (2004) *Neoliberalism: A critical reader*: Pluto Press.
- SAGE, C.F. et al. (2008) Oocyte Cryopreservation in Women Seeking Elective Fertility Preservation: A Multicenter Analysis [20]. *Obstetrics and Gynecology-New York-*, 111 (4), pp. 20S.
- SAMPLE, I. (ed.) (2006) Women freeze eggs in wait for right paper, US study finds. *The Guardian*, retrieved from: <https://www.theguardian.com/science/2006/oct/27/medicineandhealth.familyandrelationships>.
- SANDELOWSKI, M. (1993) Rigor or rigor mortis: the problem of rigor in qualitative research revisited. *Advances in Nursing Science*, 16 (2), pp. 1-8.
- SANDELOWSKI, M. (1991) Compelled to Try: The Never- Enough Quality of Conceptive Technology. *Medical Anthropology Quarterly*, 5 (1), pp. 29-47.
- SAVULESCU, J. and GOOLD, I. (2008) Freezing Eggs for Lifestyle Reasons. *American Journal of Bioethics*, 8 (6), pp. 32-35.
- SAWICKI, J. (1991) *Disciplining Foucault: Feminism, power, and the body*: Psychology Press.
- Eggs for later* (2010). MARIEKE SCHELLART Trueworks. 17th November.
- SCHMIED, V.A. et al. (2011) 'Not waving but drowning': a study of the experiences and concerns of midwives and other health professionals caring for obese childbearing women. *Midwifery*, 27 (4), pp. 424-430.
- SCHRECKER, T. and BAMBRA, C. (2015) *How Politics Makes Us Sick: Neoliberal Epidemics*: Palgrave Macmillan.
- SCHUMAN, L. et al. (2013) Women pursuing non-medical oocyte cyropreservation would consider non-genetic methods of family building such as adoption or ovum donation. *Fertility and Sterility*, 100 (3), pp. S66.
- SCHUMAN, L. et al. (2012) Women Pursuing Non-Medical Oocyte Cryopreservation Share Information About Their Treatment With Family and Friends. *Fertility and Sterility*, 97 (3), pp. S12-S13.
- SCHUMAN, L. et al. (2011) Psychology of egg freezing patients: would they consider single motherhood?. *Fertility and Sterility*, 96 (3, Supplement), pp. S206.
- SCHYTT, E. and BERGSTRÖM, M. (2014) First-time fathers' expectations and experiences of childbirth in relation to age. *Midwifery*, 30 (1), pp. 82-88.
- SEALE, C. (2003) Health and media: an overview. *Sociology of Health & Illness*, 25 (6), pp. 513-531.
- SEDGWICK, M. and SPIERS, J. (2009) The use of videoconferencing as a medium for the qualitative interview. *International Journal of Qualitative Methods*, 8 (1), pp. 1-11.

## References

- SETTERSTEN JR, R.A. (2003) *Age structuring and the rhythm of the life course*: Springer.
- SEVÓN, E. (2012) 'My life has changed, but his life hasn't': Making sense of the gendering of parenthood during the transition to motherhood. *Feminism & Psychology*, 22 (1), pp. 60-80.
- SEVÓN, E. (2005) Timing motherhood: Experiencing and narrating the choice to become a mother. *Feminism & Psychology*, 15 (4), pp. 461-482.
- SHAW, R.L. and GILES, D.C. (2009) Motherhood on ice? A media framing analysis of older mothers in the UK news. *Psychology and Health*, 24 (2), pp. 221-236.
- SHENTON, A.K. (2004) Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22 (2), pp. 63-75.
- SHKEDI-RAFID, S. and HASHILONI-DOLEV, Y. (2011) Egg freezing for age-related fertility decline: preventive medicine or a further medicalization of reproduction? Analyzing the new Israeli policy. *Fertility & Sterility*, 96 (2), pp. 291-294.
- SIM, J. (1998) Collecting and analysing qualitative data: issues raised by the focus group. *Journal of Advanced Nursing*, 28 (2), pp. 345-352.
- SJØVAAG, H. and STAVELIN, E. (2012) Web media and the quantitative content analysis: Methodological challenges in measuring online news content. *Convergence: The International Journal of Research into New Media Technologies*, 18 (2), pp. 215-229.
- SMAJDOR, A. (2009) Between fecklessness and selfishness: is there a biologically optimal time for motherhood?. In: *Reprogen-ethics and the future of gender*: Springer, pp. 105-117.
- SMITH, C. and ELGER, T. (2012) Critical realism and interviewing subjects.
- SMITH, N. (1999) Antenatal classes and the transition to fatherhood: A study of some fathers' views. *MIDIRS Midwifery Digest*, 9 (4), pp. 463-468.
- SOL OLAFSDOTTIR, H., WIKLAND, M. and MÖLLER, A. (2011) Reasoning about timing of wanting a child: A qualitative study of Nordic couples from fertility clinics. *Journal of Reproductive and Infant Psychology*, 29 (5), pp. 493-505.
- SOLIMAN, H.H. et al. (2012) Oocyte cryopreservation, will it be a real social choice and family solution?. *Middle East Fertility Society Journal*, 17 (1), pp. 8-11.
- SONG, F.W. et al. (2012) Women, Pregnancy, and Health Information Online The Making of Informed Patients and Ideal Mothers. *Gender & Society*, 26 (5), pp. 773-798.
- SOULES, M.R. (2003) The story behind the American Society for Reproductive Medicine's prevention of infertility campaign. *Fertility and Sterility*, 80 (2), pp. 295-299.
- SPALLONE, P. and STEINBERG, D.L. (1987) *Made To Order: The Myth of Reproductive And Genetic Progress*.
- SPENCER, L., RITCHIE, J. and O'CONNOR, W. (2003) Analysis: practices, principles and processes. *Qualitative Research Practice: A Guide for Social Science Students and Researchers*, pp. 199-218.

## References

- SPRECHER, S. and FELMLEE, D. (1997) The balance of power in romantic heterosexual couples over time from "his" and "her" perspectives. *Sex Roles*, 37 (5), pp. 361-379.
- STANTON, C. and SUSSMAN, E. (2014) A Survey on Awareness and Interest Towards Proactive Egg Freezing among Women 25 - 35 Years Old. *Fertility and Sterility*, 101 (2, Supplement), pp. e34-e35.
- STANWORTH, M. (1987) Reproductive technologies: Gender, motherhood and medicine.
- STARKS, H. and TRINIDAD, S.B. (2007) Choose your method: a comparison of phenomenology, discourse analysis, and grounded theory. *Qualitative Health Research*, 17 (10), pp. 1372-1380.
- STEMLER, S. (2001) An overview of content analysis. *Practical Assessment, Research & Evaluation*, 7 (17), pp. 137-146.
- STOOP, D. et al. (2015) Does oocyte banking for anticipated gamete exhaustion influence future relational and reproductive choices? A follow-up of bankers and non-bankers. *Human Reproduction (Oxford, England)*, 30 (2), pp. 338-344.
- STOOP, D., NEKKEBROECK, J. and DEVROEY, P. (2011) A survey on the intentions and attitudes towards oocyte cryopreservation for non-medical reasons among women of reproductive age. *Human Reproduction (Oxford, England)*, 26 (3), pp. 655-661.
- STRAUSS, A. and CORBIN, J. (1998) Basics of qualitative research: Procedures and techniques for developing grounded theory. *Ed: Thousand Oaks, CA: Sage*.
- STRICKLER, J. (1992) The new reproductive technology: problem or solution?. *Sociology of Health & Illness*, 14 (1), pp. 111-132.
- SVANBERG, A.S. et al. (2006) Attitudes toward parenthood and awareness of fertility among postgraduate students in Sweden. *Gender Medicine*, 3 (3), pp. 187-195.
- TAN, S.Q. et al. (2014) Social oocyte freezing: a survey among Singaporean female medical students. *The Journal of Obstetrics and Gynaecology Research*, 40 (5), pp. 1345-1352.
- TANAKA, S. and WALDFOGEL, J. (2007) EFFECTS OF PARENTAL LEAVE AND WORK HOURS ON FATHERS' INVOLVEMENT WITH THEIR BABIES: Evidence from the millennium cohort study. *Community, Work and Family*, 10 (4), pp. 409-426.
- TEMPLETON, S. (2006) Late motherhood as 'big a problem' as teenage mums. *Sunday Times*.
- TER KEURST, A., BOIVIN, J. and GAMEIRO, S. (2015) Women's intentions to use fertility preservation to prevent age-related fertility decline. *Reproductive Biomedicine Online*.
- TERRY, J. (1989) The body invaded: Medical surveillance of women as producers.
- THOMAS, G.M. and LUPTON, D. (2015) Threats and thrills: pregnancy apps, risk and consumption. *Health, Risk & Society*, pp. 1-15.
- THOMPSON, C. (2005) *Making parents: the ontological choreography of reproductive technologies*: MIT press.

## References

- THOMPSON, C. (2002) *Fertile ground: Feminists theorize infertility*: University of California Press.
- THROSBY, K. (2004) *When IVF fails: Feminism, infertility and the negotiation of normality*: Palgrave Macmillan Basingstoke.
- TODD, G. (ed.) (1999) The big question: fertility, should you freeze your eggs?. *Sunday Mirror*,.
- TORIELLO, H.V., MECK, J.M. and PROFESSIONAL PRACTICE AND GUIDELINES COMMITTEE (2008) Statement on guidance for genetic counseling in advanced paternal age. *Genetics in Medicine : Official Journal of the American College of Medical Genetics*, 10 (6), pp. 457-460.
- TOUGH, S. et al. (2007) Factors influencing childbearing decisions and knowledge of perinatal risks among Canadian men and women. *Maternal and Child Health Journal*, 11 (2), pp. 189-198.
- TOUGH, S. et al. (2006) What do women know about the risks of delayed childbearing?. *Canadian Journal of Public Health/Revue Canadienne De Sante'E Publique*, pp. 330-334.
- TOUGH, S.C. et al. (2002) Delayed childbearing and its impact on population rate changes in lower birth weight, multiple birth, and preterm delivery. *Pediatrics*, 109 (3), pp. 399-403.
- TREMELLEN, K. and SAVULESCU, J. (2014) Ovarian reserve screening: a scientific and ethical analysis. *Human Reproduction (Oxford, England)*, 29 (12), pp. 2606-2614.
- TSAFRIR, A. et al. (2015) Ovarian stimulation for oocyte cryopreservation for prevention of age-related fertility loss: one in five is a low responder. *Gynecological Endocrinology : The Official Journal of the International Society of Gynecological Endocrinology*, 31 (10), pp. 779-782.
- TUFFORD, L. and NEWMAN, P. (2012) Bracketing in qualitative research. *Qualitative Social Work*, 11 (1), pp. 80-96.
- TYDÉN, T. et al. (2006) Female university students' attitudes to future motherhood and their understanding about fertility. *The European Journal of Contraception & Reproductive Health Care*, 11 (3), pp. 181-189.
- TYMSTRA, T. (2007) 'At least we tried everything': About binary thinking, anticipated decision regret, and the imperative character of medical technology. *Journal of Psychosomatic Obstetrics & Gynecology*, 28 (3), pp. 131-131.
- TYMSTRA, T. (1989) The imperative character of medical technology and the meaning of "anticipated decision regret". *International Journal of Technology Assessment in Health Care*, 5 (02), pp. 207-213.
- ULRICH, M. and WEATHERALL, A. (2000) Motherhood and infertility: Viewing motherhood through the lens of infertility. *Feminism & Psychology*, 10 (3), pp. 323-336.
- UMBERSON, D., PUDROVSKA, T. and RECZEK, C. (2010) Parenthood, childlessness, and well-being: A life course perspective. *Journal of Marriage and Family*, 72 (3), pp. 612-629.

## References

- UTTING, D. and BEWLEY, S. (2011) Family planning and age- related reproductive risk. *The Obstetrician & Gynaecologist*, 13 (1), pp. 35-41.
- VALLEJO, V. et al. (2013) Social and psychological assessment of women undergoing elective oocyte cryopreservation: a 7-year analysis.
- VAN DE WIEL, L. (2014) For Whom the Clock Ticks: Reproductive Ageing and Egg Freezing in Dutch and British News Media. *Studies in the Maternal*, 6 (1).
- VAN DE WIEL, L. (2014) Freezing in anticipation: Eggs for later. In: *Women's Studies International Forum*: Elsevier.
- VAN LOENDERSLOOT, L.L. et al. (2011) Expanding reproductive lifespan: a cost-effectiveness study on oocyte freezing. *Human Reproduction (Oxford, England)*, 26 (11), pp. 3054-3060.
- VINCENT, C., PICKERING, S.J. and JOHNSON, M.H. (1990) The hardening effect of dimethylsulphoxide on the mouse zona pellucida requires the presence of an oocyte and is associated with a reduction in the number of cortical granules present. *Journal of Reproduction and Fertility*, 89 (1), pp. 253-259.
- VON WOLFF, M., GERMEYER, A. and NAWROTH, F. (2015) Fertility preservation for non-medical reasons: controversial, but increasingly common. *Deutsches Arzteblatt International*, 112 (3), pp. 27-32.
- WALDBY, C. (2015a) THE OOCYTE MARKET AND SOCIAL EGG FREEZING: From scarcity to singularity. *Journal of Cultural Economy*, (ahead-of-print), pp. 1-17.
- WALDBY, C. (2006) *Tissue economies*: Wiley Online Library.
- WALDBY, C. (2015b) 'Banking time': egg freezing and the negotiation of future fertility. *Culture, Health & Sexuality*, 17 (4), pp. 470-482.
- WALL, G. (2001) Moral constructions of motherhood in breastfeeding discourse. *Gender & Society*, 15 (4), pp. 592-610.
- WANG, C.T. et al. (2013) Optimized protocol for cryopreservation of human eggs improves developmental competence and implantation of resulting embryos. *J Ovarian Res*, 6 (1), pp. 15.
- WARREN, C.A. (2002) Qualitative interviewing. *Handbook of Interview Research: Context and Method*, 839101.
- WEBB, R.E. and DANILUK, J.C. (1999) The end of the line infertile men's experiences of being unable to produce a child. *Men and Masculinities*, 2 (1), pp. 6-25.
- WEBER, R.P. (1990) *Basic content analysis*: Sage.
- WENNERBERG, A.L. et al. (2015) Attitudes towards new assisted reproductive technologies in Sweden: a survey in women 30-39 years of age. *Acta Obstetricia Et Gynecologica Scandinavica*, .
- WHATCLINIC.COM (2015) *Demand for fertility treatments in UK more than doubles in one year*: Whatclinic.

## References

- WHITE, P. (2013) Who's afraid of research questions? The neglect of research questions in the methods literature and a call for question-led methods teaching. *International Journal of Research & Method in Education*, 36 (3), pp. 213-227.
- WIEBE, E., CHALMERS, A. and YAGER, H. (2012) Delayed motherhood: understanding the experiences of women older than age 33 who are having abortions but plan to become mothers later. *Canadian Family Physician Medecin De Famille Canadien*, 58 (10), pp. e588-95.
- WILKES, K. (2015) colluding with neo-liberalism: post-feminist subjectivities, whiteness and expressions of entitlement. *Feminist Review*, 110 (1), pp. 18-33.
- WILLIAMS, M.A. and MITTENDORF, R. (1993) Increasing maternal age as a determinant of placenta previa. More important than increasing parity?. *The Journal of Reproductive Medicine*, 38 (6), pp. 425-428.
- WISE, J. (2000) UK lifts ban on frozen eggs. *BMJ (Clinical Research Ed.)*, 320 (7231), pp. 334.
- WITKIN, G. et al. (2013) What makes a woman freeze: the impetus behind patients' desires to undergo elective oocyte cryopreservation. *Fertility and Sterility*, 3 (100), pp. S24.
- WODAK, R. and MEYER, M. (2009) Critical Discourse Analysis: History. *Agenda, Theory And*,.
- WODAK, R. and MEYER, M. (2015) *Methods of critical discourse studies*: Sage.
- WYNDHAM, N., MARIN FIGUEIRA, P.G. and PATRIZIO, P. (2012) A persistent misperception: assisted reproductive technology can reverse the "aged biological clock". *Fertility and Sterility*, 97 (5), pp. 1044-1047.
- YEO, A. et al. (2014) In-depth interviews. *Quality Research Practice: A Guide for Social Science Students and Researchers*, pp. 177-210.
- ZIADEH, S. and YAHAYA, A. (2001) Pregnancy outcome at age 40 and older. *Archives of Gynecology and Obstetrics*, 265 (1), pp. 30-33.
- ZIARNOWSKI, K.L., BREWER, N.T. and WEBER, B. (2009) Present choices, future outcomes: anticipated regret and HPV vaccination. *Preventive Medicine*, 48 (5), pp. 411-414.
- ZINN, J.O. (2004) Health, risk and uncertainty in the life course: A typology of biographical certainty constructions. *Social Theory & Health*, 2 (3), pp. 199-221.
- ZOLL, M., MERTES, H. and GUPTA, J. (2015) Corporate giants provide fertility benefits: have they got it wrong?. *European Journal of Obstetrics, Gynecology, and Reproductive Biology*,.



## **Appendix One: Summary of egg freezing process**

The process of egg freezing begins with the woman undergoing an ovarian reserve test to first identify whether she would be a suitable candidate for the procedure. An ovarian reserve test seeks to provide a predictor of current fertility levels as well as provide some prediction about the likely outcome of ovarian stimulation (how many eggs could be collection following retrieval). Ovarian reserve tests can currently only predict egg quantity and not quality and questions remain over the reliability of this form of screening. The ovarian reserve test is undertaken by measuring biochemical markers such as FSH, anti mullerian hormone and inhibin B in the woman's blood and via an internal ovarian ultrasound to examine her follicle count and ovarian volume. Should she present as a good candidate for egg freezing, the woman can then begin the process of egg freezing. This process is the same as that of IVF.

In the first stage the woman's normal hormone production is down-regulated (switched off) through the use of a gonadotrophin releasing hormone in order to allow the clinician to regulate the woman's process of egg production.

In the second stage the woman's ovaries are stimulated with a course of hormone injections which the woman will be directed to inject for a specified period of days in order to simulate her ovaries in to producing a larger number of eggs than during a normal cycle. During this process the woman is required to attend the clinic on a daily basis for blood tests and internal ultrasounds so the clinician can monitor the stimulation process. At the end of this process of stimulation the final trigger shot is injected by the woman to prepare her eggs for collection.

The third stage is the egg collection process from the ovaries. This process is undertaken whilst the woman is under 'twilight sedation' and is achieved via a fine needle being inserted through the cervix to penetrate and aspirate individual follicles in the ovaries. The liquid in these follicles are then drained in to individual test tubes which are then emptied by the embryologist in to a petri dish to identify any eggs collected.

The fourth stage sees any mature eggs washed and prepared in the laboratory for freezing. Depending on the processes being used by the individual clinic, these eggs are

then either vitrified (flash frozen) or slow frozen in small straws. The eggs are then stored in a secure tank containing liquid nitrogen in a state of 'suspended animation' in which the normal processes of biological degradation are halted.

The risks of the procedure to the female user of this technology come from the ovarian stimulation process, as well as the retrieval process. These risks include:

- Adverse reactions to medications
- Ovarian hyper stimulation syndrome from stimulation process
- Pelvic infection from egg collection process
- Bladder, bowel or vessel perforation from egg collection process

Other side effects and thus risks of the procedure include:

- Pain in the abdomen
- Shortness of breath
- Swelling bloating of the abdomen
- Feeling feverish or generally unwell
- Nausea and vomiting
- Dizziness
- Heightened emotional responses

The National Institute for Health and Clinical Excellence also note the possible association between ovarian stimulation and ovarian cancer however state that a definitive causal link has yet to be determined.

**Appendix two: Demographic information sheet****Data collection form**

Thank you for agreeing to take part in an interview. I would be grateful if you could provide some further information to enable me to better understand your experiences. Please complete the following form and I will either collect it from you at interview or you can email it back to me.

**1. How old are you?****2. If you have frozen your eggs how old were you at this time?****3. What is your marital status?**

- ☐ single
- ☐ married
- ☐ divorced
- ☐ other, please specify:

**4. What is your highest educational qualification?**

- ☐ No formal qualifications
- ☐ GCSEs or other level 1 or 2 qualifications
- ☐ A/AS Levels or other level 3 qualifications
- ☐ Undergraduate degree (e.g. BSc or BA)
- ☐ Master's degree
- ☐ Doctorate
- ☐ Other, please specify:

**5. Are you currently in paid employment?**

- ☐ Yes full time
- ☐ Yes part time
- ☐ No

If yes, what is your occupation?

|  |
|--|
|  |
|--|

**6. Ethnic Group:**

White

- ☐ English / Welsh / Scottish / Northern Irish / British
- ☐ Irish
- ☐ Gypsy or Irish Traveller
- ☐ Any other White background – please specify:

Mixed / multiple ethnic groups

- ☐ White and Black Caribbean
- ☐ White and Black African

- ☐ White and Asian  
☐ Any other Mixed / multiple ethnic background – please specify:

Asian / Asian British

- ☐ Indian  
☐ Pakistani  
☐ Bangladeshi  
☐ Chinese  
☐ Any other Asian background – please specify:

Black / African / Caribbean / Black British

- ☐ African  
☐ Caribbean  
☐ Any other Black / African / Caribbean background – please specify:

Other ethnic group

- ☐ Arab  
☐ Any other ethnic group – please specify

## **7. Religion or belief:**

- ☐ No religion  
☐ Christian (including Church of England, Catholic, Protestant and all other Christian denominations)  
☐ Buddhist  
☐ Hindu  
☐ Jewish  
☐ Muslim  
☐ Sikh  
☐ Any other religion – please specify

## **8. Disability status**

The Equality Act 2010 states a person has a disability if they have a physical or mental impairment that has a substantial and long-term adverse effect (likely to last 12 months or more) on their ability to perform normal day-to-day activities (e.g. eating, washing, walking and going shopping).

- ☐ No disability  
☐ Sensory impairment  
☐ Physical or mobility impairment  
☐ Specific learning difficulty or disability (e.g. dyslexia)  
☐ General learning disability (cognitive)  
☐ Mental health difficulty  
☐ Long term illness or health condition  
☐ Autistic spectrum disorder  
☐ Other – please specify

All information will be stored in accordance with the Data Protection Act.

**Thank you for providing this information**

For office use only:  
Interviewee ID:

## Appendix three: Interview guide

### Interview guide

*Hello \_\_\_\_\_ thank you so much for agreeing to meet me today and for being part of this research. I have been really looking forward to speaking with you and hearing about your experience. Egg freezing is such an interesting topic so it's great that I am finally getting to speak to women who have firsthand experience of something I have spent so much time reading, writing and speaking about.*

*(Allow time for any response)*

*Before we begin I just wish to reassure you that, as stated on the consent form, our interview today will be kept confidential and your identity will be anonymised, a pseudonym will be chosen for you and in any documents you will be referred to by that name instead of your own.*

*If you wish for us to take a break at anytime during the interview we can and if you wish to withdraw from the research you are of course free to do so. I would like to record this interview so I can really listen to what you say rather than have to sit here scribbling notes.*

*(Allow time for any response)*

### Questions

#### Motivations, reasons for freezing

1. Can you tell me when you began to think about egg freezing and why?  
How did you find out about the technology?  
Relationship/ Work/ Age (Factor-important)
2. What was it about egg freezing which appealed to you?  
Do you feel it is important to you to be genetically related to your child?  
Is becoming a mother a very important part of your future life plans?
3. What was it about your situation, at the time of freezing your eggs, which made you feel that becoming a mother was not yet something you felt able to pursue?  
Did/do your work or career commitments influence your decisions about becoming a mother?
4. Did you consider any alternatives to egg freezing?  
Having a child alone? Embryo freezing? Why did you decide against these options?

**Thinking about egg freezing**

5. So, thinking about your treatment, how did you go about choosing a clinic?  
What did you choose that particular clinic to freeze your eggs?  
What was your experience of that clinic like?  
What were the staff like?
6. Did the clinic discuss things such as success rates and risks of egg freezing with you?  
What did you think about this?
7. Was there anything about egg freezing which worried or concerned you at all?  
Use of stimulation drugs, self administering drugs, success rate, cost, experimental status, use of future fertility treatment, other people's opinions?
8. Would have there been anything which would have put you off egg freezing?  
Risks to child, cost, legalities

**Support**

9. Did you draw on anyone for support throughout the process?
10. When you were considering freezing your eggs did you discuss this with anyone? Friends/family/medical professionals/partner  
How did you feel about talking to them about this?
11. What did they say when you told them you were considering freezing your eggs?  
Did their opinions help you decide about whether or not to pursue egg freezing?  
Was there anyone you didn't tell?
12. Did you attend any clinic open day, seminars or events?  
Did you access any online forums, blogs or relevant internet sites before or during your egg freezing experience?  
Did you do any online research in to egg freezing?
13. Did you make use of any counselling or advice services provided by the clinic?  
How did you find this? Was it useful?

**Experience of egg freezing**

14. Can you tell me about your experience of the stimulation cycle and retrieval process?  
How did you feel about the prospect of self administering the stimulation medication?  
Experience of self injecting, effect of drugs on body/emotions
15. How did it go?  
Did it go wrong at all?  
Did you have any side effects or problems?  
With stimulation or retrieval-how did you feel about this?
16. Were you able to easily manage the process alongside your other commitments?  
Did you encounter any problems whilst doing this? Time off work for blood tests/checks ups during stimulation and recovery
17. Did you change your routine or do anything different whilst you were undergoing egg freezing? For example food, exercise, alcohol, sleep, vitamins
18. Did you ever consider stopping?  
What made you continue?

**Post egg freezing experience and thinking about the future**

19. How did you feel after you had frozen your eggs?
20. Did you consider undergoing further rounds of egg freezing?  
Why/ why not?  
Would you in the future?
21. Did you feel differently towards your fertility and future after you had frozen your eggs?
22. How do you feel about the stored eggs? Do you have any anxieties about your eggs or their use in future treatment?
23. Have you thought about how you may use them in the future?
24. When do you think you would like to become a mother?  
Under what circumstances do you think you would ideally like to have your first child?  
Do you think you would consider having a child alone using donated sperm?
25. Some women has said they are anxious about being an 'older mum' is this something which bothers you?



26. Have you thought much about a future partners involvement in using your frozen eggs to conceive?  
How do you feel about discussing this with a partner in the future?
27. Do you feel it is important for you to have a child with a future partner or husband? Would you consider any alternative family arrangements such as co-parenting or asking a friend to be a sperm donor?
28. If you were unable to conceive using your frozen eggs do you think you would you consider having IVF treatment with donated eggs?  
Would you ever consider adopting a child?
29. If you did not need your eggs in future fertility treatment what would you do with them?  
Donate them (who?), allow to perish, donate them to research

**Closing questions**

30. Now you have frozen your eggs, how do you feel about the future?
31. Part of my research has been examining the way social egg freezing is discussed in the media, have you seen any media coverage about egg freezing?  
What do you think about it?
32. Do you know anyone else who has frozen their eggs or have thought about it?
33. Would you recommend egg freezing?
34. Is there anything else that you would like to say, or anything we haven't covered?

### Appendix four: Research participant characteristics summary table

| Participant Name | Age                                 |                      | Relationship status |                          |                      |                           |                                   |               |                              |             |
|------------------|-------------------------------------|----------------------|---------------------|--------------------------|----------------------|---------------------------|-----------------------------------|---------------|------------------------------|-------------|
|                  | At time of first egg freezing cycle | At time of interview | Motherhood status   | At time of freezing eggs | At time of interview | Socio-economic status     | Highest educational qualification | Nationality   | Current country of residence | Religion    |
| <b>Aleen</b>     | 33/35                               | 35                   | Non-mother          | Single                   | Single               | Professional & managerial | Undergraduate degree              | British       | UK                           | Christian   |
| <b>Amber</b>     | 36                                  | 39                   | Non-mother          | Single                   | Single               | Professional & managerial | Masters degree                    | British       | UK                           | No religion |
| <b>Anne</b>      | 36                                  | 36                   | Non-mother          | Single                   | Single               | Intermediate              | Professional qualification        | American      | America                      | Jewish      |
| <b>Catrine</b>   | 34                                  | 34                   | Non-mother          | Cohabiting               | Cohabiting           | Professional & managerial | Masters degree                    | Norwegian     | Norway                       | No religion |
| <b>Charlotte</b> | 42                                  | 42                   | Non-mother          | Single                   | Single               | Professional & managerial | Undergraduate degree              | American      | America                      | Christian   |
| <b>Claire</b>    | 39                                  | 41                   | Non-mother          | Single                   | Single               | Intermediate              | Undergraduate degree              | New Zealander | UK                           | No religion |
| <b>Claudia</b>   | 36/37                               | 41                   | Non-mother          | Single                   | In a relationship    | Professional & managerial | Masters degree                    | New Zealander | UK                           | No religion |
| <b>Effsie</b>    | 38                                  | 40                   | Non-mother          | Single                   | Single               | Self employed             | Undergraduate degree              | British       | UK                           | Jewish      |
| <b>Ellen</b>     | 40/41                               | 45                   | Non-mother          | Single                   | Single               | Professional & managerial | Masters degree                    | British       | UK                           | Christian   |
| <b>Emily</b>     | 37/38/39                            | 44                   | Non-mother          | Single                   | Single               | Professional & managerial | Masters degree                    | British       | UK                           | No religion |
| <b>Hayley</b>    | 36                                  | 38                   | Non-mother          | Single                   | Single               | Professional & managerial | Masters degree                    | British       | UK                           | Jewish      |
| <b>Helena</b>    | 37                                  | 37                   | Non-mother          | Single                   | Single               | Professional & managerial | Doctorate                         | German        | UK                           | Christian   |
| <b>Holly</b>     | 37/38                               | 38                   | Non-mother          | Single                   | Single               | Professional & managerial | Undergraduate degree              | British       | UK                           | No religion |
| <b>Jen</b>       | 37                                  | 39                   | Non-mother          | Single                   | Married              | Intermediate              | Masters degree                    | American      | America                      | Spiritual   |
| <b>Joanna</b>    | 41                                  | 41                   | Non-mother          | Single                   | Single               | Intermediate              | Masters degree                    | British       | UK                           | No          |

|                 |          |    |            |                   |                   |                           |                            |             |         | religion    |
|-----------------|----------|----|------------|-------------------|-------------------|---------------------------|----------------------------|-------------|---------|-------------|
| <b>Kanta</b>    | 37       | 41 | Non-mother | Single            | Single            | Professional & managerial | Professional qualification | British     | UK      | Muslim      |
| <b>Katie</b>    | 37       | 38 | Non-mother | Single            | Single            | Professional & managerial | Doctorate                  | American    | America | Spiritual   |
| <b>Lacey</b>    | 37       | 40 | Non-mother | Single            | Single            | Professional & managerial | Undergraduate degree       | British     | UK      | No religion |
| <b>Leona</b>    | 36       | 39 | Mother     | Single            | Single            | Intermediate              | Professional qualification | British     | UK      | No religion |
| <b>Lindie</b>   | 32       | 34 | Non-mother | Single            | In a relationship | Professional & managerial | Masters degree             | Argentinian | UK      | Christian   |
| <b>Livvy</b>    | 35       | 37 | Mother     | In a relationship | In a relationship | Professional & managerial | Undergraduate degree       | British     | UK      | No religion |
| <b>Mabel</b>    | 39/40    | 41 | Non-mother | Single            | Married           | Professional & managerial | Undergraduate degree       | American    | America | Christian   |
| <b>Mary</b>     | 44       | 49 | Non-mother | Single            | In a relationship | Professional & managerial | Undergraduate degree       | British     | UK      | No religion |
| <b>Melanie</b>  | 36       | 36 | Non-mother | Single            | In a relationship | Intermediate              | Undergraduate degree       | American    |         | Christian   |
| <b>Olivia</b>   | 36       | 39 | Non-mother | Single            | Engaged           | Professional & managerial | Masters degree             | British     | UK      | No religion |
| <b>Patricia</b> | 37       | 41 | Non-mother | Single            | In a relationship | Professional & managerial | Masters degree             | British     | UK      | No religion |
| <b>Preeti</b>   | 35/36    | 37 | Non-mother | Single            | Single            | Professional & managerial | Professional qualification | British     | UK      | Muslim      |
| <b>Rachel</b>   | 33       | 34 | Non-mother | In a relationship | Single            | Intermediate              | Masters degree             | British     | UK      | No religion |
| <b>Rae</b>      | 39       | 39 | Non-mother | Single            | Single            | Professional & managerial | Professional qualification | American    | America | Spiritual   |
| <b>Shu</b>      | 39       | 39 | Non-mother | Single            | Single            | Professional & managerial | Professional qualification | British     | UK      | No religion |
| <b>Sofia</b>    | 35/36/36 | 39 | Non-mother | Divorced          | Married           | Professional & managerial | Professional qualification | Brazilian   | UK      | Christian   |

## Appendix five: Data analysis example

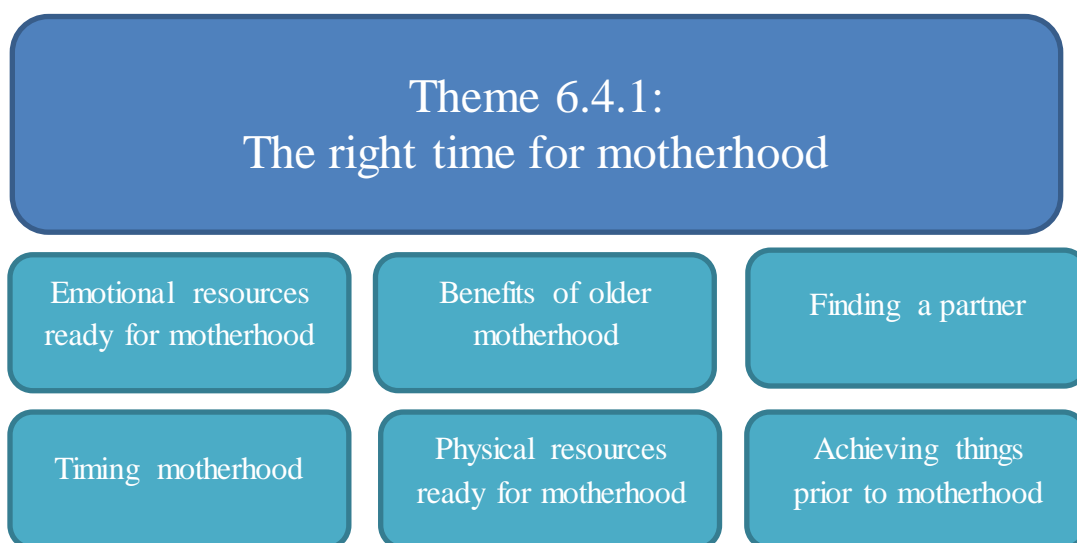
As discussed in chapter four of this thesis, the data collected from the 31 semi structured interviews with female users of egg freezing were analysed using thematic analysis (Braun and Clark, 2006). The process of analysis undertaken was described in chapter four (see 4.2.3) and this analysis led to the identification of several themes which were discussed in chapters six, seven and eight of this thesis.

Following a process of coding using Nvivo 10 I sought to begin the process of drawing out key themes from the data. Whilst the relevance of a theme is not always reflected in how often a concept or issue appears in a dataset, when devising my themes, I also sought to examine which codes occurred the most across the participant accounts. The codes 'control or lack of', 'finding a partner', 'child desire', 'risk' and 'support or lack of' were the most commonly applied across the dataset. A list of these codes as well as others were generated and transposed on to a large A3 piece of paper and were grouped under a series of thematic headings. The major themes which were derived from this process were: reasons for social egg freezing; timing motherhood; emotional and social support; risk; ambivalence about egg freezing; searching for a partner; and lifecourse expectations.

These themes were made up of relevant codes that when drawn together were able to tell a story or provide an insight in to a topic or experience relevant to the participant accounts. An example of one such early theme was that of 'timing motherhood'. This theme was comprised of the codes:

Being ready; benefits of older motherhood; motherhood as life changing; good mothering; right time; responsible; wrong ways to do motherhood; right ways to do motherhood; achieving things other than motherhood; finding a partner.

These themes, as well as others, were then reviewed and to ensure their salience and a short paragraph was written about each theme and its contents. From this the final themes were developed, the final iteration of this theme following a process of refinement was 'The right time for motherhood' (which is discussed in chapter six, see 6.4.1). A summary of this theme including the codes 'within' it is provided below



The major themes identified early on in the analysis map well on to the final themes discussed in the thesis which are about the right time for motherhood and lifecourse expectations (chapter six), ambivalence about egg freezing, risk, and reasons for social egg freezing (chapter seven), emotional support and searching for a partner (chapter eight).

## Appendix six: Copy of ethical approval letter

1<sup>st</sup> November 2011

Kylie Baldwin



Dear Kylie,

Re: Ethics application — PhD: An exploratory study of egg freezing for non-medical reasons.  
(ref: 827)

I am writing regarding your application for ethical approval for a research project titled to the above project. This project has been reviewed in accordance with the Operational Procedures for De Montfort University Faculty of Health and Life Sciences Research Ethics Committee. These procedures are available from the Faculty Research and Commercial Office upon your request.

I am pleased to inform you that ethical approval has been granted by Chair's Action for your application. This will be reported at the next Faculty Research Committee, which is being held in January 2012.

Should there be any amendments to the research methods or persons involved with this project you must notify the Chair of the Faculty Research Ethics Committee immediately in writing. Serious or adverse events related to the conduct of the study need to be reported immediately to your Supervisor and the Chair of this Committee.

The Faculty Research Ethics Committee should be notified by e-mail to [HLSFRO@dmu.ac.uk](mailto:HLSFRO@dmu.ac.uk) when your research project has been completed.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Paul Whiting'.

Professor Paul Whiting

Chair  
Faculty of Health and Life Sciences  
Research Ethics Committee  
Faculty of Health and Life Sciences, The Gateway, Leicester LE1 9BH.

Tel: (01 16) 255 1551 / Fax: (01 16) 257 7135

## Appendix seven: Participant information sheet



### **Participant Information Sheet** **An Exploratory Study of Egg Freezing for Non-Medical Reasons**

#### **Research Interviews**

Dear Participant,

Thank you very much for your time. Thank you too for considering participating in this study. Please find below detailed information about the study.

#### **Who is doing this research and why?**

My name is Kylie Baldwin and I am a PhD student at De Montfort University. My doctoral dissertation is an exploratory study of egg freezing for non medical reasons.

#### **What is the research about?**

My research aims to better understand the phenomenon of egg freezing for social reasons. Egg freezing is a relatively new technology which allows mature eggs to be retrieved from women and then cryogenically frozen for an indefinite period of time until they are defrosted for reproductive use; most commonly using IVF technology. In the past egg freezing has been undertaken in an attempt to preserve a woman's eggs in the face of imminent fertility loss caused by radiotherapy treatment or as a result of another illness threatening the number and quality of a woman's eggs. Social egg freezing is instead an optional procedure undertaken by women who wish to preserve their eggs against future age-related infertility.

#### **What has been accomplished so far?**

To date I have undertaken a media analysis of the way that egg freezing and the female users of the technology are presented by the British Press and have undertaken a large scale survey questionnaire examining the perception and opinions of egg freezing technology held by women between 18 and 35 years of age.

#### **What is being done now?**

The final part of this research seeks to identify and examine in detail the motivations, expectations and experiences of women who have frozen their eggs or have seriously considered doing so. The aim of this part of the study is to develop an in depth understanding of individual women's experience and own personal stories of their egg freezing journey.

#### **Why am I being invited to participate?**

You are being invited to participate in this research because you have indicated that you have either undergone social egg freezing or have seriously considered the procedure.

#### **What are you asking of me?**

I am asking you to take part in an interview lasting between 60-90 minutes in which I will ask you some questions about your motivations for considering or using social egg freezing, your feelings and (where relevant) experiences about the process, and your future considerations.

**Where will the interview take place?**

The interview can take place either at your own home or at an alternative agreed location.

**What if I want to drop out?**

You can drop out at any stage during the course of the interview or withdraw from the study up to **7 days** after you have completed the interview, without any questions asked. My email contact details are provided at the end of this form for you to use to contact me if you wish to withdraw.

**How will you protect my anonymity and that of any one I may mention in my interview?**

Your real name and any identifying features will not be disclosed in this research; in place a pseudonym will be used. Names of any family member(s), places, doctors, friends that you mention during the interview will also have their names replaced with pseudonyms. This means that all identities will remain anonymous.

**Will the information I give you be kept confidential?**

Yes. The information obtained in the interview will be treated with the strictest confidence throughout the study and sound files of the recorded interview will be stored securely on no more than one password protected USB stick and computer.

**What if I don't want to answer any particular questions?**

If you do not wish to answer any of the questions that I ask you during the interview, please just say so and I will move on to the next question.

**What if I don't want you to include certain things I've said in/during my interview?**

If during the interview you say something which you decide you do not want me to include in my study, then please just say during the interview (or up to 7 days after) that you would like it omitted from the transcript and the completed thesis.

**What if I am upset by anything during the course of the study?**

I will at all times aim to ask questions in a sensitive and appropriate manner and as stated previously you have the right to decline to discuss any aspect that you are asked about. However if you do find participating in the interview upsetting at any point, you might like to take a break, or if you prefer, you can decide to end your participation and withdraw from the study at that point. Equally, as long as time permits, I can reschedule the interview if you are willing to do so.

**Who will have access to the recording?**

Only I, my supervisors and potential university auditors from the university ethics committee will have access to the recording.

**Who will have access to my interview transcript?**

Only I and my supervisor will have access to the fully transcribed interview. With your permission we would like to keep a copy of your fully anonymised transcript for teaching and/or research purposes beyond this individual study. However please note that this is **not** a condition for involvement in the study.



**Who will see the finished report?**

There is the possibility that extracts from your interview data may be included in the finished thesis, which will be made publically available, as well as in published academic journals or conference papers. However these extracts will be anonymised and only myself and my supervisors will know your identity and have access to the original interview transcript.

**How has the ethical management of this project been conducted?**

This study has been put together following the guidelines of the British Sociological Association and has been reviewed by the Faculty of Life Science Human Research Ethics committee who have approved its conduct.

This study has been put together following the guidelines of the British Sociological Association and has been reviewed by the Faculty of Life Science Human Research Ethics committee who have approved its conduct.

**What are my supervisor's contact details:**

Professor Lorraine Culley

Faculty of Health & Life Sciences

Room 0.39a Hawthorn Building

De Montfort University

Leicester, LE1 9BH

Tel: 0116 2078766

Email: [Lac@dmu.ac.uk](mailto:Lac@dmu.ac.uk)

If you have any concerns or further questions, please do not hesitate to contact her. My email contact details are as follows: [kylie.baldwin@email.dmu.ac.uk](mailto:kylie.baldwin@email.dmu.ac.uk)

Many thanks for your time in considering participating.

Please retain a copy of this form for your reference. Thank you.

*Closing information:*

*This research is being undertaken to the highest ethical standards and is being overseen by the University Ethics Board. However it is considered important for research participants to be made aware of the possible negligent and non negligent harms that have the potential to occur as a result of a participant's involvement in this study.*

*The potential non negligent harms may include participants experiencing emotional upset as a result of the study which is focusing on a sensitive topic; namely potential infertility or fertility problems. However it is important to note that mitigation strategies have been devised, as mentioned above, to prevent intense emotional distress occurring.*

*Further non negligent harms include any accidents or illnesses that may occur when the participant is involved in the research.*

*The potential negligent harms that technically have the potential to occur could include participants feeling uncomfortable or unhappy about their involvement in the research due to a*

*rude or insensitive interviewer. Equally the participant could experience upset if the interviewer is late or fails to attend the interview at the specified time or causes offence to the participant in anyway. It is important to state that this research is being undertaken to the highest ethical standards and it is highly unlikely that such situations will occur, it is however considered prudent that potential participants are made aware of these facts.*

*If you have any concerns regarding your involvement in this study which you do not feel can be addressed by Kylie Baldwin or Lorraine Culley please feel free to contact Professor Jannet Wright who is Faculty Head of Research students at De Montfort University for Health and Life Sciences.*

Professor Jannet Wright

Faculty of Health & Life Sciences  
Room 8.09 Edith Murphy House  
De Montfort University  
Leicester, LE1 9BH  
Tel: 0116 257 7578  
Email: [jwright05@dmu.ac.uk](mailto:jwright05@dmu.ac.uk)

## Appendix eight: Example consent form

### Informed Consent Form

#### An Exploratory Study of Egg Freezing for Non-Medical Reasons

#### **Research Interview Consent Form**

Please read the following items carefully and **initial** the box to show that you have read, understood and agree to each item.

|  |  |
|--|--|
| I am over 18 years of age, and I voluntarily agree to participate in a research project conducted and outlined to me by Kylie Baldwin, a PhD Student at De Montfort University.  |  |
| I have read the Information and Participation document provided to me and understand the aims and objectives of the research and my role and rights as a participant of the research.  |  |
| I understand that I am being asked to participate in an interview (approximately 60 to 90 minutes) and respond to a series of open questions.  |  |
| I understand that the whole interview will be recorded but should I wish to stop the recording at any time I may do so by informing the researcher accordingly.  |  |
| I have been informed that I may withdraw from participation without prejudice or penalty if I so wish and my data will be appropriately destroyed. I have been informed that withdrawal after 7 days from the interview will not be possible.  |  |
| The researcher has offered to answer any questions concerning the research procedure and I have been provided with contact details for both the researcher and her supervisor.   |  |
| I understand I will be fully protected in accordance with the Data Protection Act of 1998, and in compliance with the British Sociological Association's statement of ethical practice and that my personal information will be kept confidential and anonymous.   |  |
| I understand that my name and any personal details will not appear in any report concerning this study, and I agree that any of the anonymised data I provide may be used by the researcher in her PhD thesis, future publications in academic journals and in conference presentations about the study. |  |

|  |  |
|--|--|
| I understand that if I so wish I may have a summary copy of the final research findings and I agree for the researcher to contact me for this purpose. |  |
|--|--|

Please keep one copy of this consent form for your own records. The second copy will be kept by the researcher to evidence your consent to be involved in this research.

**Name (write in capitals):** \_\_\_\_\_

**Signed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Researcher's signature:** \_\_\_\_\_

(*Kylie Baldwin* – De Montfort University)

**Date:** \_\_\_\_\_

**Email:** kylie.baldwin@email.dmu.ac.uk


**Researcher's contact details:**

Kylie Baldwin  
 C/O Professor Lorraine Culley  
 Faculty of Health & Life Sciences  
 Room 0.39a Hawthorn Building  
 De Montfort University  
 Leicester, LE1 9BH  
 Tel: 0116 2078766  
 Email: kylie.baldwin@email.dmu.ac.uk


**Supervisor's contact details:**

Professor Lorraine Culley  
 Faculty of Health & Life Sciences  
 Room 0.39a Hawthorn Building  
 De Montfort University  
 Leicester, LE1 9BH  
 Tel: 0116 2078766  
 Email: Lac@dmu.ac.uk

## Appendix nine: Recruitment poster



# Egg Freezing



Have you frozen your eggs?  
 Or  
 Have you thought about doing so?

If the answer is yes, then I would like to hear your story.

Please turn over for more information about volunteering for this study

Technological advances have made it possible to preserve a woman's fertility by freezing her eggs for future use. Until recently this technique was mainly available to women whose fertility was at risk as a result of medical treatments for illnesses such as cancer. Today however, clinics are offering women the opportunity to freeze their eggs for non-medical reasons. This suggests that women may store healthy, 'young' eggs to potentially draw upon later in life when they feel that circumstances are right for them to have a child.

This process, commonly known as 'social egg freezing' has generated considerable controversy. Some commentators regard this as exploiting women by selling them a technique which is still experimental; some express concern that it will lead women to delay childbearing, with alleged negative consequences for children. Others however, argue that social egg freezing is an important new technology which gives women increased choice and control over their fertility.

I am undertaking research to find out what women themselves think of this process. I am interested in understanding how women see this technology and how they experience social egg freezing.

**I would like to speak to women who have used this technology or who have considered egg freezing and have either been rejected by a clinic or have decided not to pursue this.**

This study is being undertaken as part of a PhD Research project at De Montfort University, Leicester under the supervision of Professor Lorraine Culley and has been subject to ethical review. The findings from the study will remain anonymous.

**If you would be willing to share your story with me, in confidence, please email Kylie Baldwin at [kbaldwin@dmu.ac.uk](mailto:kbaldwin@dmu.ac.uk) I will meet with you at a time and place convenient to you.**

## Appendix ten: Glossary of terms

**Follicle-stimulating hormone-** Hormone produced by the pituitary gland which stimulates the production of follicles by the ovary. Used in assisted conception to stimulate the production of more than one follicle (ovulation induction).

**Intracytoplasmic Sperm Injection-** A more recently developed technique commonly used during treatment where there is a problem with the male partner sperm but also utilised with frozen eggs to overcome the hardening of the zona pellucida.

**Intrauterine insemination** – A relatively simply form of assisted reproduction in which a sample of prepared sperm, either that of a woman's partner or of a sperm donor, is inserted in to the cervix or uterus of the woman.

**In vitro fertilisation-** The medical process whereby fertilisation takes place outside of the body, in the laboratory. Following ovarian stimulation, egg collection is completed, viable eggs are then fertilised using a prepared sample of sperm and are left to develop in to embryos, the resulting embryos are then transferred in to the uterus of a woman.

**Ovarian stimulation-** A medical treatment which involves the administration of fertility drugs which are designed to stimulate the ovary to produce one or more eggs.

**Ovarian Hyper Stimulation Syndrome** – The result of an over stimulation of the ovaries. Occurs when a large number of eggs mature, causing the ovaries to swell and resulting in symptoms such as abdominal pain and swelling, nausea, vomiting and fainting.

**Polycystic Ovarian Syndrome:** Condition where many small cysts form on the ovary and hormonal imbalances result which can cause infertility. Treatment is in the form of drugs or surgery.

**Preimplantation Genetic Diagnosis (PGD):** In conjunction with IVF, where a clinician removes one or two cells from an embryo, for those cells to be tested for specific genetic disorders/characteristics before embryo transfer takes place.

**Preimplantation Genetic Screening for Aneuploidy (PGS):** In conjunction with IVF, where a clinician removes one or two cells from an embryo, for those cells to be tested to ensure they contain the correct number of chromosomes (known as euploidy) and not more or less than usual (known as aneuploidy). Normal embryos (euploidy) will be selected before embryo transfer takes place.

**Zona pellucida-** The transparent membrane or shell surrounding the egg which can harden during the freezing process. This means that the egg can often only be successfully fertilised through the use of ICSI.

## Appendix eleven: Abbreviations

ACE- Association of Clinical Embryologists

AGE- Anticipated Gamete Exhaustion

ARFD- Age-related fertility decline

ARTs- Assisted reproductive technologies

ASRM- American Society for Reproductive Medicine

BFS- British Fertility Society

CA- Content analysis

CDA- Critical discourse analysis

DMU- De Montfort University

ESHRE- European Society of Human Reproduction and Embryology

FSH- Follicle-stimulating hormone

HFEA- Human Fertilisation and Embryology Society

ICSI- Intracytoplasmic Sperm Injection

IUI--Intrauterine insemination

IVF- In vitro fertilisation

NHS- National Health Service

NICE- National Institute for Clinical Excellence

OHSS- Ovarian Hyper Stimulation Syndrome

ONS- Office for National Statistics

PGD- Preimplantation Genetic Diagnosis

PGS- Preimplantation Genetic Screening

## Appendix twelve: Summary of research outputs

From this research two journal articles have been published. The first paper provides the basis of chapter two of this thesis and the second paper forms the basis of chapter six.

- BALDWIN, K. et al. (2014) Reproductive technology and the life course: Current debates and research in social egg freezing. *Hum Fertil (Camb)*, 17 (3), pp. 170-179.
- BALDWIN, K. et al. (2015) Oocyte cryopreservation for social reasons: demographic profile and disposal intentions of UK users. *Reproductive Biomedicine Online*, 31 (2), pp. 239-245.

### Invited public engagement events

- Invited speaker/panel member for Timeless Public Debate: 'Can women have it all?' Funded by the LSE and Wellcome Trust, London, March 2016
- Invited Speaker for the British Science Festival 2016 Scientific Section Presidential Address. Swansea University 7th September 2016. Social egg freezing: motherhood on ice?

### Conference presentations

I have presented on this research at several national and international conferences and events.

- British Sociological Association Annual Medical Sociology Conference, Aston University 9th September 2016, Compelled to try: social egg freezing and reproductive citizenship
- Arguing with Justice Early Career Researcher Symposium, University of Warwick 27th June 2016 Moralising reproductive control: Social egg freezing for all, would it be a public good?
- Postponing Childbirth, Extending Fertility? Biotechnologies and Transformations of Reproductive Life, De Montfort University 13th May, 2016 'Compelled to try': egg freezing and neoliberal governmentality
- Making parents? Human reproduction and family life in contemporary society University of Roehampton 'I suppose I think to myself, that's the best way to be a mother': how women's beliefs about parenthood shape their reproductive intentions including their use of social egg freezing.
- Reproductive rights, new reproductive technologies and the European fertility market, 19-20 November 2015 Santander, Spain 'Social egg freezing: a rational market choice?
- 2nd International Symposium on Social Egg Freezing, Barcelona 6th March 2015, The importance and relevance of 'critical experiences' in understanding women's motivations for social egg freezing: experiences from the UK
- Department of Medical Ethics and History of Medicine Goettingen University, Germany, Postponed Motherhood and the Ethics of the Family-14<sup>th</sup> October 2014 at Goettingen



University, Germany. 'Frozen futures: The profile and motivations of women who freeze their eggs for 'social' reasons'

- British Sociological Association, East Midlands Medical Sociology Group Event- 11<sup>th</sup> June 2014 at De Montfort University. 'Social egg freezing: Women's experience of a new form of 'fertility preservation'.
- The University of Nottingham, 6th ENQUIRE Postgraduate Conference-10th-11th September 2013-Social egg freezing: A technologically mediated route to 'normal' motherhood or a challenge to normative expectations?'
- The University of Warwick, Graduate Seminar Series - 1st May 2013 'Social egg freezing: Negotiating choice, responsibility and the right time to become a mother'
- British Sociological Association, Medical Sociology Annual Conference- 7th September 2012 at The University of Leicester. 'Social Egg Freezing: Conceptualising choice and responsibility in media discourse'
- British Sociological Association, Human Reproduction Study Group Annual Conference- 21st June 2012 at The University of Lancaster. 'Social Egg Freezing: A means to reproductive autonomy'
- De Montfort University, Reproduction Research Group Seminar-22nd March 2012. 'Social egg freezing- the facts, the future the forethought'
- De Montfort University, Postgraduate Research Seminar Series- 4th July 2011. 'Social Egg Freezing: An exploratory mixed methods study'

### **Selected media/interview outputs**

BBC World News Live Television-GMT

MOODY, O. (2016) Shortage of willing fathers drives women to store eggs. The Times.

KNAPTON, S. (2016) Women choose to freeze their eggs because they cannot find a suitable father for their children. The Telegraph

DAVIS, N. (2016) Women freeze eggs to gain time to find the right partner. The Guardian

FORSTER, K. (2016) Women who freeze their eggs do so to meet the right partner and not for career, study finds. The Independent

ALLEN, V. (2016) Women freezing eggs while they wait for Mr Right-rather than putting their career first The Daily Mail